

**NEW ZEALAND REFERENCE CULTURE
COLLECTION, MEDICAL SECTION**

CATALOGUE OF STRAINS

7th Edition 2004

**Compiled by Patricia Short
Curator**

**Communicable Disease Group
ESR**

January 2004

New Zealand Reference Culture Collection, Medical Section
Catalogue of Strains, 7th Edition, 2004

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First published	1977
Supplement	1977
Supplement	1979
2nd Edition	1981
Supplement	1983
3rd Edition	1985
4th Edition	1989
Supplement	1990
Supplement	1991
5th Edition	1994
6 th Edition	1998

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ISBN 0 473 02791 7

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INTRODUCTION

GENERAL

The New Zealand Reference Culture Collection (NZRCC) was formed in 1968 when a proposal by the New Zealand Committee on Culture Collections of Microorganisms was approved by the Minister of Science. The collection, which J D Manning had started in 1955 at the National Health Institute, Wellington, was designated as the national repository of organisms of medical interest. Other sections of the NZRCC were also established at other institutions specialising in dairy, plant diseases, veterinary and industrial microorganisms.

The Collection moved with the National Health Institute in 1982 to its present site in Porirua. In 1992 when the Crown Research Institutes were set up, the Collection was incorporated into The Institute of Environmental Science and Research Ltd (ESR). It is funded principally through a Ministry of Health contract and supported by the resources of ESR.

The principal functions of the Medical Section (acronym NZRM), formerly known as the NHI Type Culture Collection, are to acquire, preserve and distribute authentic cultures for use in teaching, research and quality control. In addition to organisms of medical interest, some strains of use in the veterinary, dairy and industrial fields are also held.

The NZRM is a member of the World Federation for Culture Collections (WFCC, World Data Centre for Microorganisms). Our Collection No. is 457.

The Collection is accredited with International Accreditation New Zealand (IANZ) and has a quality management system which complies with the requirements of The New Zealand Code of Laboratory Management Practice.

KINDS OF CULTURES HELD IN THE COLLECTION

Cultures of the following kinds are included in the Collection:

- 1 Cultures which are the officially designated type, reference strain or suggested working type.
- 2 Authentic representative strains, usually obtained from other Collections or from a recognised authority.
- 3 Cultures of organisms which have been accepted as the standard for special purposes. Examples are strains with a particular antigenic structure, strains for vitamin assay, antibiotic assay, control of antibiotic sensitivity tests and control of sterilisation procedures.
- 4 Representative New Zealand isolates, even when a culture of the same species is also held. These cultures include isolates which are the subject of a formal publication, the first New Zealand isolate of a species, and strains with particular antimicrobial sensitivity patterns, plasmid profiles or other properties.
- 5 Typing system strains, which have been obtained from other Collections or from a recognised authority. These are not listed in full in the Catalogue, details are available on request.
- 6 Cultures required for some special investigations. These are not listed in the general Catalogue. Anyone requiring unusual or special strains is advised to consult the Curator before ordering from overseas.

USE OF THE CATALOGUE

Nomenclature

The majority of strains are bacteria and the nomenclature used is, as far as possible, that given in the "Approved Lists of Bacterial Names" 1989⁽¹⁾ and in subsequent publications of the International Journal of Systematic Bacteriology (IJSB) now the International Journal of Systematic and Environmental Microbiology (IJSEM), or, if published elsewhere, by quotation in the IJSB/IJSEM's lists of "Validation of the Publication of New Names and New Combinations Previously Effectively Published Outside the IJSB/IJSEM". Where the name is not nomenclaturally valid it has been included to provide maximum utility. An on-line service "Bacterial Nomenclature Up-to-date", provided by the DSMZ Collection in Germany, can be found at www.dsmz.de.

Reference

- 1 Skerman VBD, McGowan V, Sneath PHA, editors. Approved lists of bacterial names. Washington, D.C. : American Society for Microbiology; 1989.

ARRANGEMENT OF STRAIN DATA

Genera and species, including the small number of yeasts and fungal strains held, are listed in alphabetical order. Under the name of each species are listed the strains held. The information available on each strain varies greatly. The general format of entries is as follows:

- The scientific name of the species, followed by author(s). Quotes around a “scientific name” indicate it is not on the approved lists.
- Basonym (if applicable) - this is the former name of the species before creation of a new combination.
- NZRM strain number. A superscript **T** after the NZRM strain number indicates that the strain is the type strain of the species or subspecies.
- Source of the strain to the NZRM, with synonymous designation in other collections given in brackets.
- Strain designation(s), history, other names under which it was deposited.
- Status, uses, special properties.
- Literature references where available.
- Source of isolation.
- Recommended medium and growth conditions, see Media Section for recipes.

ORDERING PROCEDURE

To avoid delay, all requests for cultures must be by letter or order form, which may be sent by mail, fax or e-mail. The request should be signed by the head of the laboratory or a qualified deputy. A street address for delivery and a fax and telephone number are required.

Cultures are packed and shipped, usually by courier, in accordance with the Land Transport, Civil Aviation and International Air Transport Authority regulations for transport of infectious materials. Some overseas countries require the recipient to obtain a permit to import biological materials. The onus to ensure that quarantine regulations are not inadvertently violated rests with the recipient.

Freeze-dried cultures are usually issued within 1-2 working days; some cultures need to be re-activated from frozen storage and consequently their shipment may be delayed.

If a specific strain is not requested, then the purpose for which the culture is required should be stated, so that a suitable strain may be supplied.

New strains are continually being added to the Collection, please inquire if you do not see what you require listed in the catalogue.

Restricted Cultures

The distribution of some cultures is restricted, either because of their pathogenicity to humans and/or animals or because they are of use only to those undertaking special investigations, consult the Collection before ordering.

Address requests to: The Curator
NEW ZEALAND REFERENCE CULTURE COLLECTION,
MEDICAL SECTION
 Communicable Disease Group
 ESR Kenepuru Science Centre
 34 Kenepuru Drive, PO Box 50-348
 Porirua 6215, New Zealand
 Telephone: (04) 914 0700 (04 914 0705 direct line)
 Facsimile: (04) 914 0770
 E-mail: pat.short@esr.cri.nz

FEES

The Collection is funded through a contract with the Ministry of Health to supply cultures to New Zealand hospital and community laboratories. Other clients are charged a fee for each culture to cover the cost of the preparation and checking of the culture. The fee includes packing and shipping costs by our usual method within New Zealand, it does not include goods and services tax (GST).

SAFETY INFORMATION, REVIVAL AND STORAGE INSTRUCTIONS



NEW ZEALAND REFERENCE CULTURE COLLECTION, MEDICAL SECTION (NZRM)

ESR, Kenepuru Science Centre, 34 Kenepuru Drive, PO Box 50-348, Porirua 6215, New Zealand

Telephone: (04) 914 0700 (DDI 914 0705) Facsimile: (04) 914 0770

E-mail: pat.short@esr.cri.nz

Website: www.esr.cri.nz

Ampoules of freeze-dried cultures can be stored in a cool dark place until you open them.

The NZRM holds and distributes organisms of Risk Group 1 and 2 only.

Definitions*:

Risk Group 1 (low individual and community risk) – a microorganism that is unlikely to cause human, plant or animal disease.

Risk Group 2 (moderate individual risk, limited community risk) – a pathogen that can cause human, plant or animal disease, but is unlikely to be a serious hazard to laboratory workers, the community, livestock, or the environment; laboratory exposures may cause infection, but effective treatment and preventive measures are available, and the risk of spread is limited.

RISK GROUP 2 – SAFETY INFORMATION

Organisms annotated Risk Group 2 organisms on the packing slip with this shipment should be handled in Physical Containment level 2 (PC2) laboratory facilities, using the required equipment and practices, by staff with appropriate training and experience*.

In addition, some Risk Group 2 bacteria require special precautions*.

Bacteria of Risk Group 2 Requiring Special Precautions

Organism	Special Precautions
<i>Clostridium tetani</i>	V
<i>Corynebacterium diphtheriae</i>	V
<i>Escherichia coli</i> Verocytotoxin-producing strains, eg. O157	G,T
<i>Leptospira interrogans</i> (all serovars)	E
<i>Listeria monocytogenes</i>	P
<i>Mycobacterium</i> spp. other than <i>M. tuberculosis</i> complex	C,G
<i>Mycobacterium tuberculosis</i> complex (except multi-drug resistant strains)	C,G,V
<i>Neisseria meningitidis</i> (except for Serogroup B)	V*,C
<i>Neisseria meningitidis</i> (Serogroup B)	C,E,G
<i>Salmonella</i> Typhi	G,V
<i>Shigella dysenteriae</i> Type 1	G

LEGEND:

C = use cabinets for aerosol containment, where applicable

E = eye protective equipment required

G = gloves required

P = may be dangerous for pregnant women

T = staff with appropriate experience and training

V = vaccination

V* = vaccine available for Serogroups A, C, W135 and Y, but no vaccine is currently available for Serogroup B *Neisseria meningitidis*

*Reference. AS/NZS 2243.3:2002 Safety in Laboratories Part 3: Microbiological aspects and containment facilities. This standard is available from Standards New Zealand, Private Bag 2439, Wellington. E-mail snz@standards.co.nz Internet www.standards.co.nz

WARNING

Users of the New Zealand Reference Culture Collection, Medical Section, are advised that all the cultures must be considered as potential pathogens. They should be handled only by suitably trained personnel. Cultures should also be

considered as potential hazards to livestock or plants.

CONDITIONS OF SUPPLY

- 1 That the recipients have read the above warning.
- 2 That the cultures will be used by the recipients, or under their direct supervision, or handled only by persons authorised by the recipients.
- 3 That the cultures or derived subcultures will not be distributed to any person who has not read a copy of the above warning and these conditions.
- 4 That the responsibility for ensuring safe handling of the cultures after receipt rests with the recipients. No responsibility is accepted for any laboratory infection which may arise through accidental mishandling of cultures received from the New Zealand Reference Culture Collection, Medical Section.

INSTRUCTIONS FOR REHYDRATION OF FREEZE-DRIED CULTURES

Recommendations for growth media and conditions are given at the end of each strain entry on the packing slip with this shipment, and in the latest catalogue. A simplified list of the media is given in this instruction sheet, refer to the catalogue for full media formulations, see publications at www.esr.cri.nz.

OPENING THE AMPOULE

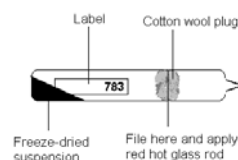
Wear safety glasses and take care when you open the ampoule as the contents are in a vacuum.

Make a file cut on the ampoule near the middle of the cotton-wool plug.

Heat a broken-off Pasteur pipette in a bunsen flame till red hot and molten, then quickly place it on the file cut to crack the glass.

Discard the pointed end of the ampoule and the cotton wool plug into disinfectant.

OPENING OF AN AMPOULE



REVIVING THE CULTURE

Flame the open end of the ampoule and add, with a Pasteur pipette, about 0.5 ml (15 drops) of broth* and mix the contents carefully.

Transfer the suspension to suitable solid and liquid media, placing the numbered strip on to the surface of the solid medium. You can then readily recognise the culture if you open several ampoules at the same time.

Incubate media in appropriate temperature and atmospheric conditions.

* General suggestions for a rehydrating broth

- Non fastidious aerobic bacteria
 - any good nutrient broth
 Yeasts
 - Sabouraud dextrose broth
 Anaerobes
 - cooked meat medium (broth)
 Lactobacillus species
 - Lactobacillus MRS broth
 Legionella species, fungi
 - double strength skim milk (20% w/v)
 Fastidious bacteria
 - heart or brain heart infusion broth

NUMERICAL LIST OF GROWTH MEDIA

1	Trypticase Soy Agar or equivalent	16	Revised Ducreyi Medium
2	5% Sheep Blood Agar	17	Lactobacillus Medium
3	Enriched (Supplemented) Chocolate Agar	18	Tomato Juice, Yeast Extract and Milk
4	Anaerobic Blood Agar (Non-selective)	19	EMJH Medium
5	Sabouraud Dextrose Agar	20	Marine Agar
6	Legionella (BCYE) Agar	21	Schaedler Blood Agar
7	Lactobacilli MRS Broth/ Agar or equivalent	23	Yeast Malt Extract Agar (Difco 0770, ISP Medium 2)
8	Charcoal Agar	24	Casein Agar
9	Cooked (Chopped) Meat Medium	25	Thermoactinopolyspora Medium
10	5% Rabbit Blood Agar	26	Cornmeal Agar (Difco 0386)
11	Brucella Broth	27	YM Agar (Difco 0712)
12	Brain Heart Infusion Agar	28	Brain Heart Infusion Agar + 30 mg/L Ampicillin and 30 mg/L Streptomycin
13	Sweet Potato / Kumera Agar	29	Medium 1 with 64 mg/L Nalidixic Acid
14	Casman Blood Agar	29	Medium 1 with 64 mg/L Nalidixic Acid
15	Streptomyces Medium	30	McConkey Agar with 100 mg/L Nalidixic Acid and 20 mg/L Kanamycin Sulphate

LONG TERM STORAGE OF STRAINS

Prepare seed stocks from some of the early growth of the culture after revival. Two commonly used ways of maintaining the seed stocks are:

- (a) on an appropriate maintenance medium
 (b) by freezing (ultra-low temperature storage)

(a) MAINTENANCE MEDIUM METHOD

Grow the culture under optimum conditions on/in a maintenance medium in a screw cap container.[§]

Store the seed stock cultures in the refrigerator, except for delicate fastidious organisms such as *Neisseria* or *Haemophilus* species which should be overlaid with sterile mineral oil and stored at 37C.

It is a good idea to make two seed stocks in this way, and prepare your routine working plate cultures from one. If contamination, mutation or loss of viability occurs the untouched seed stock can then be used.

§ These maintenance media include nutrient agar (this could be standard methods or plate count agar), dorset egg medium, cooked meat medium, enriched chocolate agar, Sabouraud dextrose agar,

(b) FREEZING METHOD

Grow the culture under optimum conditions on agar or in broth.

Inoculate several loopfuls of cells (if from broth centrifuge to concentrate them) into small vials[†] of 15% glycerol in trypticase soy broth^{‡‡}.

Store the vials in a freezer at -50C or below.

It is a good idea to make at least two seed stocks in this way, and prepare your routine working plate cultures from one. If contamination, mutation or loss of viability occurs the untouched seed stock can then be used.

To prepare working cultures, partly thaw the vial and plate a loopful out onto the appropriate medium.

† eg, cryotubes - several brands are available, some are supplied with beads in a cryopreservative fluid. To recover the culture one bead is removed and inoculated onto a suitable medium.

‡‡ glycerol 15 ml, trypticase soy broth dehydrated medium 3 g, distilled water to 100 ml, dispense in cryotubes, sterilise by autoclaving.

Ref: Am J Clin Pathol 1976; 66 : 927-8.

WHEN TO REPLACE YOUR CULTURES

For seed stocks kept on maintenance medium, we recommend you order replacement cultures from the Collection at regular intervals (eg, yearly or two-yearly) or sooner if exhausted. For seed stocks stored at ultra-low temperatures, long-term viability will depend on the organism and the storage temperature. These cultures may not require replacement as often as seed stocks kept on maintenance medium.

Subculturing to maintain your seed stocks is discouraged. Problems associated with repeated transfers may include mutation, selection of variants and contamination.

REPLACEMENTS

Please notify the Curator of this Collection if any cultures you receive are contaminated, non-viable, or react incorrectly. The culture will be rechecked, and a replacement supplied free-of-charge if reported within three months for freeze-dried cultures, and within 30 days for growing cultures.

ABBREVIATIONS

ACM	Australian Collection of Microorganisms, University of Queensland, Brisbane, Australia.
AOAC	Association of Official Analytical Chemists, Arlington, Virginia, USA.
ATCC	American Type Culture Collection, Manassas, Virginia, USA.
CBS	Centraalbureau voor Schimmelcultures, Baarn, The Netherlands.
CCUG	Culture Collection, University of Goteborg, Sweden.
CDC	Centers for Disease Control and Prevention, Atlanta, Georgia, USA.
CIP	Collection of the Institute Pasteur, Paris, France.
CLIP	Listeria Collection of the Institute Pasteur, Paris, France.
CMI	CAB International, Commonwealth Mycological Institute, Egham, England.
CN	Burroughs Wellcome Research Laboratories, Beckenham, Kent, England.
Col. FH	Food Hygiene Laboratory, Central Public Health Laboratory, Colindale, London, England.
Col. Sal.	Salmonella Reference Laboratory, Division of Enteric Pathogens, Central Public Health Laboratory, Colindale, London, England.
CSIRO	Commonwealth Scientific and Industrial Research Organisation, Australia.
DSM	DSMZ - Deutsche Sammlung von Mikroorganismen und Zellkulturen, Braunschweig, Germany.
FAO	Food and Agriculture Organisation.
FDA	US Food and Drug Administration, Washington DC, USA.
FH	See Col FH.
FRR	Division of Food Research, Food Research Laboratory, CSIRO, Sydney, Australia.
ICMP	International Collection of Microorganisms from Plants, Landcare Research, Auckland, New Zealand.
IFO	Institute for Fermentation, Osaka, Japan.
LCDC	Laboratory Centre for Disease Control, Winnipeg, Canada.
LMG	Bacteria Collection of the Belgian Co-ordinated Collections of Microorganisms (BCCM), Ghent, Belgium.
LSHTM	London School of Hygiene and Tropical Medicine, London, England.
NCA	National Canners' Association, Washington DC, USA.
NCCLS	National Committee for Clinical Laboratory Standards, Wayne, Pennsylvania, USA.
NCDC	See CDC.
NCDO	National Collection of Dairy Organisms, see NCFB.
NCFB	National Collection of Food Bacteria, c/- NCIMB Ltd, Aberdeen, Scotland.
NCIB	See NCIMB.
NCIMB	National Collection of Industrial and Marine Bacteria Ltd, Aberdeen, Scotland.
NCPF	National Collection of Pathogenic Fungi, Public Health Laboratory, Bristol, England.
NCTC	National Collection of Type Cultures, PHLS Central Public Health Laboratory, Colindale, London, England.
NCYC	National Collection of Yeast Culture, Institute of Food Research, Norwich, England.
NHI	National Health Institute, Porirua, New Zealand, now part of ESR Kenepuru Science Centre.
NZDRI	New Zealand Dairy Research Institute, Palmerston North, New Zealand, now Fonterra Research.
NZRM	New Zealand Reference Culture Collection, Medical Section, ESR Kenepuru Science Centre, Porirua, New Zealand.
PCI	Penicillin Control and Immunology Section, FDA, Washington DC, USA.
PDDCC	Plant Disease Division Culture Collection, Landcare Research, Auckland, New Zealand.
PI	Pasteur Institute, Paris, France.
PNAL	Palmerston North Animal Health Laboratory, Ministry of Agriculture and Forestry, Palmerston North, New Zealand.
RARC	Ruakura Agricultural Research Centre, Ministry of Agriculture and Forestry, Hamilton, New Zealand.
SRL	Staphylococcus Reference Laboratory, Central Public Health Laboratory, Colindale, London, England.
UMRL	University Micro Reference Laboratory Inc, Ann Arbor, Michigan, USA.
USDA	US Department of Agriculture, Washington DC, USA.
VPI	Virginia Polytechnic Institute and State University, Blacksburg, Virginia, USA.
WARC	Wallaceville Animal Research Centre, AgResearch, Upper Hutt, New Zealand.
WHO	World Health Organization.

Acknowledgements

Sincere thanks are extended to the staff of the specialist reference laboratories of ESR's Communicable Disease Group for their ongoing assistance in maintaining the Collection and to the wordprocessing staff for preparing the catalogue.

ALPHABETICAL LIST OF SPECIES

Abiotrophia defectiva (Bouvet et al.) Kawamura et al.

- Basonym: *Streptococcus defectivus*
3506^T ATCC 49176. (CIP 103242, DSM 9849). Strain A Bouvet SC10, **Type strain**. Blood, bacterial endocarditis patient. (Medium 2 freshly prepared, 37C, 5% CO₂)
4035 NZ isolate SI 01/002. Blood, bacterial endocarditis patient. (Medium 2, freshly prepared, 37C, 5% CO₂).

Acholeplasma laidlawii - please inquire

Achromobacter piechaudii (Kiredjian et al.) Yabuuchi et al.

- Basonym: *Alcaligenes piechaudii*
3290^T NCTC 11970. (ATCC 43552, CIP 60.75, DSM 10342). **Type strain**. Pharyngeal swab. (Medium 1, 37C)

Achromobacter xylosoxidans subsp. *denitrificans* (Ruger and Tan) Yabuuchi et al.

- Basonym: *Alcaligenes denitrificans*
837 CDC B7042. (Medium 1, 37C)

Achromobacter xylosoxidans subsp. *xylosoxidans* (ex Yabuuchi and Ohyama) Yabuuchi and Yano emend. Yabuuchi et al.

- Synonym: *Alcaligenes xylosoxidans*
832 CDC B7176. Group IIIa. (Medium 1, 37C)
833 CDC A8450. Group IIIb. (Medium 1, 37C)
3772 NZ isolate NHI 76/1818. (CDC 77023250, D7260) Lung, stillborn baby. (Medium 1, 37C).

Acinetobacter baumannii Bouvet and Grimont

- 3289^T NCTC 12156. (ATCC 19606, CIP 70.34, DSM 30007, NCIMB 12457). **Type strain**. Urine. (Medium 1, 37C)
3697 NZ isolate NI 98/425. Outbreak strain. (Medium 1, 37C).

Acinetobacter calcoaceticus (Beijerinck) Baumann et al.

- 150 NZ isolate NHI 65/5381. (Medium 1, 37C)
835 CDC C1796. (Medium 1, 37C)
3185^T ATCC 23055. (DSM 30006, NCIMB 10694). **Type strain**. (In NZRM hands, not a very typical strain.) (Medium 1, 37C)

Acinetobacter haemolyticus Bouvet and Grimont

- 3971^T ATCC 17906. (DSM 6962, NCTC 10305). **Type strain**. Sputum. (Medium 1, 37C).

Acinetobacter lwoffii (Audureau) Brisou and Prevot emend. Bouvet and Grimont

- 1218 NZ isolate NHI 76/0617. (CDC D6621). Wound. (Medium 1, 37C)
2581^T ATCC 15309. (DSM 2403, NCDC KC765, NCIMB 12456, NCTC 5866). **Type strain**. (Medium 1, 37C)

Acinetobacter sp.

- 2727 ATCC 23221. (Medium 1, 37C)
3405 ATCC 49466. AmMS 243. Quality control of Microscan® panels. Clinical isolate. (Medium 1, 37C)
3565 ATCC 49139. AmMS 202. Quality control of Microscan® panels. Clinical isolate. (Medium 1, 37C)
3972 ATCC 33305. E. Juni strain BD 413. Unencapsulated mutant derived from ATCC 33304. Transformation. Gene mapping. (Medium 1, 37C).

Actinobacillus actinomycetemcomitans (Klinger) Topley and Wilson

- Synonym: *Haemophilus actinomycetemcomitans*
809 NCTC 9709. Abscess. (Medium 2, 37C, 5% CO₂)

Actinobacillus equuli subsp. *equuli* (van Straaten) Haupt

- 1080^T NCTC 8529. (ATCC 19392). **Type strain**. Blood, foal. (Medium 2, 37C)

- Actinobacillus lignieresii* Brumpt
1081 NCTC 4976. (ATCC 19393). Bovine lesions. (Medium 2, 37C)
- Actinobacillus pleuropneumoniae* (Shope) Pohl et al.
3480 WARC 211. Strain WF83. International reference strain for serovar 7, from P J Blackall, ARC, Yeerongpilly, Australia. (Medium 3, 37C, 5% CO₂)
- Actinobacillus suis* van Dorssen and Jaartsveld
838 CDC KC561. (Medium 2, 37C)
- Actinobacillus ureae* (Jones) Mutters et al.
Basonym: *Pasteurella ureae*
864^T NCTC 10219. (ATCC 25976, DSM 5568). **Type strain**. Nose swab. (Medium 2, 37C)
- Actinomyces bovis* Harz
1005 NCTC 9431. Bovine actinomycosis. (Medium 4, 37C, anaerobic)
- Actinomyces israelii* (Kruse) Lachner-Sandoval
978 NCTC 4860. (Medium 4, 37C, anaerobic)
- Actinomyces naeslundii* Thompson and Lovestedt
1004^T NCTC 10301. (ATCC 12104, DSM 43013). **Type strain**. Human sinus. (Medium 4, 37C, anaerobic)
- Actinomyces neuii* subsp. *neuii* Funke et al.
3177 NZ isolate NHI SB 89/0050. (CDC G2826). Abscess. (Medium 2, 37C, 5% CO₂)
- Actinomyces odontolyticus* Batty
1003 NCTC 9931. (ATCC 17982, DSM 43331). Serovar 1. Dental caries. (Medium 4, 37C, anaerobic)
3768 NZ isolate SB 85/0004. (CDC 85 027952, 850366). Abscessed tooth, sinus drainage. (Medium 4, 37C anaerobic).
- Actinomyces viscosus* (Howell et al.) Georg et al.
3678^T ATCC 15987. (DSM 43327) **Type strain**. Hamster periodontal disease. (Medium 2, 37C).
3769 NZ isolate SB 85/0041. (CDC 85027950, 850365). Brain abscess. (Medium 2, 37C).
- Aerococcus urinae* Aguirre and Collins
3583^T NCFB 2893. (ATCC 51268, DSM 7446, NCTC 12142). **Type strain**. Urinary tract infection. (Medium 2, 30C)
- Aerococcus viridans* Williams et al.
3204^T ATCC 11563. (DSM 20340, NCIMB 11775, NCTC 8251). **Type strain**. Air sample. (Medium 2, 37C)
- Aeromonas caviae* Popoff
806 NCTC 10362. (*Aeromonas hydrophila* subsp. *formicans*). Sewage. (Medium 1, 37C)
1029 CDC B4989. *Aeromonas punctata*. (Medium 1, 37C)
3305^T ATCC 15468. (DSM 7323, NCIMB 13016, NCTC 12244). **Type strain**. (*Aeromonas punctata* subsp. *caviae*). Young guinea pigs. (Medium 1, 37C)
- Aeromonas hydrophila* subsp. *hydrophila* (Chester) Stanier emend. Huys et al.
804^T NCTC 8049. (ATCC 7966, DSM 30187, NCIB 9240). **Type strain**. Salicin not fermented. Tin of milk with a fishy odour. (Medium 1, 37C)
3205 ATCC 7965. (NCTC 7812). Rapid ID system control. Kanamycin sensitive. (Medium 1, 37C)
- Aeromonas jandaei* Carnahan et al.
3306^T ATCC 49568. (DSM 7311). **Type strain**. Faeces. (Medium 1, 37C)
4019 NZ isolate ER 00/4777. Arm wound. (Medium 1, 37C).

- “*Aeromonas liquefaciens*” (Beijerinck) Kluyver and van Neil
807 NCTC 9744. Kanamycin sensitive. (Medium 1, 37C)
- Aeromonas media* Allen et al.
3307^T ATCC 33907. (DSM 4881, NCIMB 2237). **Type strain.** Fish farm effluent.
(Medium 1 or 2, 25C)
- Aeromonas salmonicida* subsp. *salmonicida* (Lehmann and Neumann) Griffin et al. **Distribution restricted**
808 NCTC 10402. (Medium 2, 25C)
- Aeromonas shubertii* Hickman-Brenner et al.
3303^T ATCC 43700. (DSM 4882, NCIMB 13161). **Type strain.** Forehead abscess.
(Medium 1, 37C)
- Aeromonas sobria* Popoff and Veron
3033 UMRL 1248 (ATCC 9071, CDC 360-60, CDC-RH36, NCIMB 37, NCTC 7810).
Taxonomy. Frog "red-leg". (Medium 1, 37C)
3699 NZ isolate ER 00/730. Faeces. (Medium 1, 37C).
- Aeromonas trota* Carnahan et al.
3308^T ATCC 49657. (DSM 7312). **Type strain.** (Medium 1, 37C)
3968 NZ isolate ER 00/1458. Faeces. (Medium 1, 25C).
- Aeromonas veronii* Hickman-Brenner et al.
3304^T ATCC 35624. (DSM 7386, NCIMB 13015). **Type strain.** Enteric group 77. Sputum of
drowning victim. (Medium 1, 37C)
- Agrobacterium radiobacter* see *Rhizobium radiobacter*
- Alcaligenes faecalis* subsp. *faecalis* Castellani and Chalmers
697 NCTC 415. (ATCC 19018). Faeces. (Medium 1, 37C)
836 CDC KC 675 (*Alcaligenes odorans*). (Medium 1, 37C)
- Alcaligenes odorans* see *Alcaligenes faecalis* subsp. *faecalis* NZRM 836
- Alicyclobacillus acidoterrestris* (Deinhard et al.) Wisotzkey et al.
4038 Strain MH.1 Enzafoods Ltd. Apple juice concentrate. (Modified potato dextrose agar pH 4.0,
45C).
- Alloiococcus otitis* Aguirre and Collins
3648 NZ isolate SB 98/533. Otitis media with effusion. (Medium 2, 37C, moist atmosphere).
- Arcanobacterium haemolyticum* Collins et al.
Basonym: *Corynebacterium haemolyticum*
816 NCTC 9697. Probably human. (Medium 2, 37C)
- Arcanobacterium pyogenes* (Glage) Pascual Ramos et al.
Basonym: *Actinomyces pyogenes*
Basonym: *Corynebacterium pyogenes*
92 NCTC 6448. (ATCC 8104). Bovine mastitis. (Medium 2, 37C)
- Arcobacter butzleri* (Kiehlbauch et al.) Vandamme et al.
4017^T CCUG 30485. (ATCC 49616, DSM 8739, NCTC 12481). **Type strain.** Human faeces.
(Medium 2, 30C).
- Arcobacter cryaerophilus* (Neill et al.) Vandamme et al.
4018^T CCUG 17801. (ATCC 43158, DSM 7289, NCTC 11885). **Type strain.** Brain of bovine
foetus. (Medium 2, 30C).
- Arthrobacter cumminsii* Funke et al.
3316 NZ isolate SB91/104. (CDC G6922). *Corynebacterium* sp. Group B3. Urine. (Medium 1, 37C)

Arthrobacter globiformis (Conn) Conn and Dimmick3317^T ATCC 8010. (DSM 20124, NCIB 8907). **Type strain.** (Medium 1, 25C)*Aspergillus niger* van Tieghem2578 ATCC 16404. (DSM 1387, DSM 1988, NCPF 2274). Antimicrobial preservative testing.
Media quality control strain (NCCLS M22-A2). Blueberry, North Carolina. (Medium 5, 25C)*Bacillus cereus* Frankland and Frankland5 NCTC 8035. (ATCC 10702, DSM 487, FDA 5, NCIB 8122). Assay of chlortetracycline.
Determination of aureomycin level in body fluid. (Medium 1, 37C)
773 NCTC 9945. (ATCC 10876a, ATCC 13061, NCIMB 8933). Constitutive penicillinase.
Strain 569/H. (Medium 1, 37C)
984 NCTC 10320. (ATCC 11778, DSM 345, NCIMB 8012, NCIMB 8849, NCIMB 9231,
PCI 213). Assay of tetracyclines. (Medium 1, 37C)
992 ATCC 19637. Assay of flavomycin. American Hoechst Corp FHP 1161. (Medium 1, 37C)
3429 NCTC 11143. (DSM 4312). F4810/72. Serotype 1. Vomit. Vomiting (emetic) food
poisoning strain. (Medium 1, 37C)
3430 NCTC 11145. (ATCC 49064, DSM 4313). F4433/73. Serotype 2. Meat loaf. Diarrhoeal
food poisoning strain. (Medium 1, 37C)
3485 Strain F2105/89 from Food Hygiene Laboratory, Colindale. Emetic food poisoning strain for
HEp-2 assay. (Medium 1, 37C)
3486 Strain F4108/89 from Food Hygiene Laboratory, Colindale. Emetic food poisoning strain for
HEp-2 assay. (Medium 1, 37C)*Bacillus circulans* Jordan3005^T UMRL 1074. (ATCC 4513, DSM 11, NCIB 9374, NCTC 2610). **Type strain.**
(Medium 1, 37C)*Bacillus coagulans* Hammer2569^T NCTC 10334. (ATCC 7050, DSM 1, NCIB 9365). **Type strain.** Evaporated milk.
(Medium 1, 37C)
2995 DSM 2311. (ATCC 10545, NCIB 8041). NR Smith 784. (Medium 1, 37C)“*Bacillus globigii*” see *Bacillus subtilis* NZRM 294*Bacillus laterosporus* see *Brevibacillus laterosporus**Bacillus licheniformis* (Weigmann) Chester6 NCTC 6346. (ATCC 9789, DSM 8785, NCIB 6346). Penicillinase production. Milk.
(Medium 1, 37C)*Bacillus megaterium* de Bary1077^T NCTC 10342. (ATCC 14581, DSM 32, NCIB 9376). **Type strain.** (Medium 1, 37C)*Bacillus mycoides* Flugge2946^T ATCC 6462. (DSM 2048). **Type strain.** Soil. (Medium 1, 37C)*Bacillus parabrevis* see *Brevibacillus parabrevis**Bacillus polymyxa* see *Paenibacillus polymyxa**Bacillus pumilus* Meyer and Gottheil802 NCTC 8241. (ATCC 14884, CIP 76.18, DSM 361, NCIB 8982). Antibiotic assays.
(Medium 1, 37C)
960 NCTC 10327. (ATCC 27142, DSM 492, NCIMB 10692). Wantage strain. Testing radiation
sterilization. (Medium 1, 37C)*Bacillus sphaericus* Meyer and Neide

3319 ATCC 4525. (NCIMB 8218, NCTC 2609) (Medium 1, 37C)

Bacillus stearothermophilus see *Geobacillus stearothermophilus*

Bacillus subtilis (Ehrenberg) Cohn

- 142 NCTC 6276. (ATCC 9799, NCIB 6276). Penicillinase production. (Medium 1, 37C)
 143^T NCTC 3610. (ATCC 6051, DSM 10, NCIB 3610). **Type strain.** Marburg strain. Phage host. Blood screening for phenylketonuria. (Medium 1, 37C)
 294 NCTC 10073. (ATCC 51189, DSM 2277, NCIB 8649). Ethylene oxide sterilization tests. *Bacillus globigii*. (Medium 1, 37C)
 698 NCTC 8236. (ATCC 11774, DSM 2109, NCIB 8739). Assay of penicillin, streptomycin, vancomycin and viomycin. Produces a weak penicillinase. (Medium 1, 37C)
 766 ATCC 6633. (DSM 347, NCIB 8054, NCTC 10400, PCI 219). Production of subtilin. Assay of antibiotics. Assay of penicillin in milk. Sterility testing. (Medium 1, 37C)
 1012 NCTC 10452. Sterilization test organism. (Medium 1, 37C)
 2240 ATCC 19659. (NCIMB 12900) Berliner. Sporicidal test (AOAC Methods). Testing of antimicrobial handwashing formulations. (Medium 1, 37C)

Bacillus thuringiensis Berliner

- 2981 P.I. IPS-80. From strain 1884 Negev Desert, received from Dr Pillai, Dunedin, New Zealand. Serovar *israelensis*. (Medium 1, 37C)
 3610 NZ isolate SB96/515. Recovered from human skin, during BTK spraying for tussock moth, Auckland area. Produces spores and crystals. (Medium 1, 37C)

Bacterionema matruchotii see *Corynebacterium matruchotii*

Bacteroides asaccharolyticus see *Porphyromonas asaccharolytica*

Bacteroides buccae see *Prevotella buccae*

Bacteroides caccae Johnson et al.

- 3599^T ATCC 43185. (CIP 104201T). **Type strain.** Human faeces. (Medium 4 and/or 9, 37C, anaerobic)

Bacteroides capillosus (Tissier) Kelly

- 1738 VPI 10874. (Medium 4 and/or 9, 37C, anaerobic)

Bacteroides corporis see *Prevotella corporis*

Bacteroides distasonis Eggerth and Gagnon

- 2901^T ATCC 8503. (DSM 20701, NCTC 11152). **Type strain.** (Medium 4 and/or 9, 37C, anaerobic)
 3076 NZ isolate NHI AB87/316. (CDC 89025022:890234). Post-op bowel resection. (Medium 4 and/or 9, 37C, anaerobic)

Bacteroides fragilis (Veillon and Zuber) Castellani and Chalmers

- 964 NZ isolate NHI 73/2766. (Medium 4 and/or 9, 37C, anaerobic)
 1098 NCTC 8560. Post appendectomy abscess. (Medium 4 and/or 9, 37C, anaerobic)
 1141 NCTC 10581. (ATCC 23745, DSM 1396). Control culture for antibiotic sensitivity testing. Pleural fluid. (Medium 4 and/or 9, 37C, anaerobic)
 1705^T NCTC 9343. (ATCC 25285, DSM 2151, VPI 2553). **Type strain.** Media quality control strain (NCCLS M22-A2). Control culture for anaerobic antibiotic susceptibility testing, including metronidazole. (NCCLS M11-A3). Appendix abscess. (Medium 4 and/or 9, 37C, anaerobic)
 3532 ATCC 51477. R M Araujo Boira and J Jofre HSP 40. Detection of viruses in human sewage-polluted waters. Human peritoneal exudate. (Medium 4 and/or 9, 37C, anaerobic)

Bacteroides gingivalis see *Porphyromonas gingivalis*

Bacteroides intermedius see *Prevotella intermedia*

Bacteroides levii see *Porphyromonas levii*

Bacteroides melaninogenicus see *Prevotella melaninogenica*

Bacteroides melaninogenicus subsp. *intermedius* see *Prevotella intermedia*

Bacteroides oralis see *Prevotella oralis*

Bacteroides ovatus Eggerth and Gagnon

2900^T ATCC 8483. (DSM 1896, NCTC 11153). **Type strain.** (Medium 4 and/or 9, 37C, anaerobic)

Bacteroides thetaiotaomicron (Distaso) Castellani and Chalmers

2902^T ATCC 29148. (DSM 2079, NCTC 10582, VPI 5482). **Type strain.** Faeces. (Medium 4 and/or 9, 37C, anaerobic)

2950 ATCC 29741. (DSM 2255). Control culture for anaerobic antibiotic susceptibility testing. (NCCLS M11-A3). Perforated appendix. (Medium 4 and/or 9, 37C, anaerobic)

Bacteroides ureolyticus Jackson and Goodman

2009 CDC 19270. (Medium 4 and/or 9, 37C, anaerobic)

Bacteroides vulgatus Eggerth and Gagnon

1960 Wadsworth VA Hospital, Los Angeles. Wadsworth strain No. 1887. (ATCC 29327, DSM 3289). Antibiotic disc susceptibility testing. Retroperitoneal abscess. (Medium 4 and/or 9, 37C, anaerobic)

3615^T NCTC 11154. (ATCC 8482, DSM 1447). **Type strain.** Sterility testing. Quality control strain for bioMerieux Vitek products. Media quality control strain (NCCLS M22-A2). (Medium 4 and/or 9, 37C, anaerobic)

Bartonella henselae (Regnery et al.) Brenner et al.

Basonym: *Rochalimaea henselae*

3492^T ATCC 49882. (CIP 103737). R L Regnery strain Houston-1. **Type strain.** Blood from HIV positive male. (Medium 10, 37C, 5% CO₂)

Beneckea natriegens see *Vibrio natriegens*

Beneckea vulnifica see *Vibrio vulnificus*

Bergeyella zoohelcum (Holmes et al.) Vandamme et al.

3674 NZ isolate SB 99/0100. Blood following cat bite to leg. (Medium 1, 37C).

Bifidobacterium adolescentis Reuter

3926^T DSM 20083. (ATCC 15703, NCTC 11814). **Type strain.** Intestine of adult. (Medium 4 and/or 9, 37C, anaerobic).

3927 DSM 20086. (ATCC 15705). Intestine of adult. (Medium 4 and/or 9, 37C, anaerobic).

Bifidobacterium angulatum Scardovi and Crociani

3928 DSM 20225. (ATCC 27670). Sewage. (Medium 4 and/or 9, 37C, anaerobic).

Bifidobacterium asteroides Scardovi and Trovatelli

3929^T DSM 20089. (ATCC 25910). **Type strain.** Hindgut of honeybee. (Medium 4 and/or 9, 37C, anaerobic).

Bifidobacterium bifidum (Tissier) Orla-Jensen

3930 DSM 20082. Intestine of adult. (Medium 4 and/or 9, 37C, anaerobic).

Bifidobacterium boum Scardovi et al.

3931^T DSM 20432. (ATCC 27917). **Type strain.** Bovine rumen. (Medium 4 and/or 9, 37C, anaerobic).

Bifidobacterium breve Reuter

3932^T DSM 20213. (ATCC 15700, NCTC 11815). **Type strain.** Intestine of infant. (Medium 4 and/or 9, 37C, anaerobic).

Bifidobacterium catenulatum Scardovi and Crociani

3933^T DSM 20103. (ATCC 27539). **Type strain.** Human faeces. (Medium 4 and/or 9, 37C, anaerobic).

Bifidobacterium coryneforme Biavati et al.

3934^T DSM 20216. (ATCC 25911). **Type strain.** Hindgut of honeybee. (Medium 4 and/or 9, 37C, anaerobic).

Bifidobacterium cuniculi Scardovi et al.

3935^T DSM 20435. (ATCC 27916). **Type strain.** Rabbit faeces. (Medium 4 and/or 9, 37C, anaerobic).

Bifidobacterium gallicum Lauer

3936^T DSM 20093. (ATCC 49850). **Type strain.** Intestine of adult. (Medium 4 and/or 9, 37C, anaerobic)

Bifidobacterium infantis see *Bifidobacterium longum* NZRM 3937

Bifidobacterium longum Reuter

3937 DSM 20088. (ATCC 15697, NCTC 11817). Type strain of *Bifidobacterium infantis*. Intestine of infant. (Medium 4 and/or 9, 37C, anaerobic).

3938^T DSM 20219. (ATCC 15707, NCTC 11818). **Type strain.** Intestine of adult. (Medium 4 and/or 9, 37C, anaerobic).

3946 DSM 20211. (ATCC 27533). Type strain of *Bifidobacterium suis*. Pig faeces. (Medium 4 and/or 9, 37C, anaerobic).

Bifidobacterium minimum Biavati et al.

3941^T DSM 20102. (ATCC 27538). **Type strain.** Sewage. (Medium 4 and/or 9, 37C, anaerobic).

Bifidobacterium pseudocatenulatum Scardovi et al.

3942 DSM 20439. Sewage. (Medium 4 and/or 9, 37C, anaerobic).

Bifidobacterium pseudolongum subsp. *globosum* (Biavati et al.) Yaeshima et al.

3943^T DSM 20092. (ATCC 25865). **Type strain.** Bovine rumen. (Medium 4 and/or 9, 37C, anaerobic).

Bifidobacterium ruminantium Biavati and Matarelli

3944^T DSM 6489. (ATCC 49390). **Type strain.** Rumen of cattle. (Medium 4 and/or 9, 37C, anaerobic).

Bifidobacterium subtile Biavati et al.

3945^T DSM 20096. (ATCC 27537). **Type strain.** Sewage. (Medium 4 and/or 9, 37C, anaerobic).

Bifidobacterium suis see *Bifidobacterium longum* NZRM 3946.

Bifidobacterium thermophilum Mitsuoka

3947^T DSM 20210. (ATCC 25525). **Type strain.** Pig faeces. (Medium 4 and/or 9, 37C, anaerobic).

3948 DSM 20212. (ATCC 25866). Bovine rumen. (Medium 4 and/or 9, 37C, anaerobic).

Bordetella bronchiseptica (Ferry) Moreno-Lopez

298 NCTC 8344. (ATCC 4617, DSM 10303, NCIB 9935, PCI 1701, WHO II). Assay of polymyxin B, colistin, sulphomethate, sulphomycin and dimethylchlortetracycline. (Medium 1, 37C)

Bordetella holmesii Weyant et al.

4068^T ATCC 51541. (CDC F5101/84-013939). **Type strain.** Human blood. (Medium 2, 37C, 5% CO₂, 2-3 days).

4172 NZ isolate SBL 02/527. Brachial cyst fluid. (Medium 2, 37C, 5% CO₂, 2-3 days).

Bordetella parapertussis (Eldering and Kendrick) Moreno-Lopez

13^T NCTC 5952. (ATCC 15311, DSM 13415). **Type strain.** Whooping cough. (Medium 2, 37C)

3471 NZ isolate SB84/521. (Medium 2, 37C)

Bordetella pertussis (Bergey et al.) Moreno-Lopez

- 2642 Pertussis Reference Laboratory, Manchester University Medical School. Strain GL 353, degraded type 1. For antiserum preparation, factor 1. (Medium 8, 37C)
- 2643 Pertussis Reference Laboratory, Manchester University Medical School. Strain H 36, type 1,3. For antiserum preparation, factor 3. (Medium 8, 37C)
- 2644 Pertussis Reference Laboratory, Manchester University Medical School. Strain 360E, type 1,2. For antiserum preparation, factor 2. (Medium 8, 37C)
- 3607 ATCC 8467. (Medium 8, 37C)

Branhamella catarrhalis see *Moraxella (Branhamella) catarrhalis**Brevibacillus laterosporus* (Laubach) Shida et al.

- Basonym: *Bacillus laterosporus*
- 1013^T NCTC 6357. (ATCC 64, DSM 25, NCIB 8213, 9367). **Type strain.** (Medium 1, 37C)

Brevibacillus parabrevis (Takagi et al.) Shida et al.

- Basonym: *Bacillus parabrevis*
- 3318 ATCC 8186. (DSM 5550). *Bacillus brevis*. Cheese. (Medium 1, 37C)

Brevibacterium albidum see *Curtobacterium albidum**Brevibacterium otitidis* Pascual et al.

- 4174 NZ isolate SBL 03/048. Ear, child. (Medium 1, 37C).

Brevundimonas diminuta (Leifson and Hugh) Segers et al.

- Basonym: *Pseudomonas diminuta*
- 856 CDC B72II. (Medium 1, 37C)

Brevundimonas vesicularis (Busing et al.) Segers et al.

- Basonym: *Pseudomonas vesicularis*
- 823 CDC KCl099. (Medium 1, 37C)
- 3780 NZ isolate NHI 77/0418. (CDC 77673582, D8908). Blood. (Medium 1, 37C).

Brochothrix campestris Talon et al.

- 3569^T NCIMB 12903. (ATCC 43754, CIP 102920, DSM 4712). **Type strain.** Taxonomy. Soil. (Medium 1, 25C)

Brochothrix thermosphacta (McLean and Sulzbacher) Sneath and Jones

- 3320^T ATCC 11509. (DSM 20171, NCIB 10018, NCTC 10822). **Type strain.** Fresh pork sausage. (Medium 1, 25C)

Brucella ovis Buddle

- 1105 NCTC 10037. (Medium 2, 37C)

Burkholderia cepacia complex see *Burkholderia cenocepacia*, *Burkholderia cepacia*, *Burkholderia multivorans*, *Burkholderia stabilis* and *Burkholderia vietnamensis*.*Burkholderia cenocepacia* Vandamme et al.

- 4013 LMG 12614. (NCTC 13010). *Burkholderia cepacia* complex, genomovar III. Patient suffering from cystic fibrosis. (Medium 1, 30C).

Burkholderia cepacia (Palleroni and Holmes) Yabuuchi et al.

- Basonym: *Pseudomonas cepacia*
- 849 CDC KC984. (Medium 1, 37C)
- 2768^T NCTC 10743. (ATCC 25416, DSM 7288). **Type strain.** *Burkholderia cepacia* complex, genomovar I. Suitable for Rapid ID system control. Onion. (Medium 1, 37C)

Burkholderia gladioli (Severini) Yabuuchi et al.

- Basonym: *Pseudomonas gladioli*
- 3019^T ICMP 3950. (ATCC 10248, DSM 4285, NCTC 12378). **Type strain.** "*Pseudomonas marginata*". (Medium 1, 37C)

Burkholderia multivorans Vandamme et al.

- 4014 LMG 14293. *Burkholderia cepacia* complex, genomovar II. Patient suffering from cystic fibrosis. (Medium 1, 30C).

Burkholderia pickettii see *Ralstonia pickettii**Burkholderia stabilis* Vandamme et al.

- 4015^T LMG 14294 (NCTC 13011). **Type strain.** *Burkholderia cepacia* complex, genomovar IV. Patient suffering from cystic fibrosis. (Medium 1, 30C).

Burkholderia vietnamensis Gillis et al.

- 4016^T LMG 10929. (DSM 11319, NCIMB 13696). **Type strain.** *Burkholderia cepacia* complex, genomovar V. Rice rhizosphere soil. (Medium 1,30C).

Campylobacter coli (Doyle) Veron and Chatelain

- 2606 NCTC 11353. Penner serotype 16/21. Pig placenta. (Medium 2 and/or 11, 37C, microaerophilic)
 2607^T NCTC 11366. (ATCC 33559, CCUG 11283, CIP 7080, DSM 4689). **Type strain.** Penner serotype 4. Pig faeces. (Medium 2 and/or 11, 37C, microaerophilic)
 3784 NZ isolate E 93/1687. Human faeces. (Medium 2 and/or 11, 37C, microaerophilic).

Campylobacter fetus subsp. *fetus* (Smith and Taylor) Sebald and Veron

- 1084 CDC D1278. (Medium 2 and/or 11, 37C, microaerophilic)
 1214 WARC. (Medium 2 and/or 11, 37C, microaerophilic)
 2398^T NCTC 10842. (ATCC 27374, CCUG 6823, CIP 5396, DSM 5361). **Type strain.** Sheep foetus brain. (Medium 2 and/or 11, 37C, microaerophilic)
 2939 WARC 5451(D). Restriction type a. de Lisle G W et al. Vet Microbiol 1987; **14**: 53-60. Aborted sheep foetus. (Medium 2 and/or 11, 37C, microaerophilic)
 2940 WARC 5504(4). Restriction type b. de Lisle G W et al. Vet Microbiol 1987; **14**: 53-60. Aborted sheep foetus. (Medium 2 and/or 11, 37C, microaerophilic)
 2941 WARC 5941(2). Restriction type c. de Lisle G W et al. Vet Microbiol 1987; **14**: 53-60. Aborted sheep foetus. (Medium 2 and/or 11, 37C, microaerophilic)
 2942 WARC C112. Restriction type d. de Lisle G W et al. Vet Microbiol 1987; **14**: 53-60. Aborted sheep foetus. (Medium 2 and/or 11, 37C, microaerophilic)
 2943 WARC C69. Restriction type e. de Lisle G W et al. Vet Microbiol 1987; **14**: 53-60. Aborted sheep foetus. (Medium 2 and/or 11, 37C, microaerophilic)
 2944 WARC C88. Restriction type f. de Lisle G W et al. Vet Microbiol 1987; **14**: 53-60. Aborted sheep foetus. (Medium 2 and/or 11, 37C, microaerophilic)
 2945 WARC 1214. Restriction type g. de Lisle G W et al. Vet Microbiol 1987; **14**: 53-60. Aborted sheep foetus. (Medium 2 and/or 11, 37C, microaerophilic)
 3499 NCTC 5850. Strain Milton. Biotype B. Contagious abortion, sheep. (Medium 2 and/or 11, 37C, microaerophilic)

Campylobacter fetus subsp. *venerealis* (Florent) Veron and Chatelain

- 1095 WARC. (Medium 2 and/or 11, 37C, microaerophilic)
 2399^T NCTC 10354. (ATCC 19438, CCUG 538, CIP 6829). **Type strain.** Vaginal mucus of heifer. (Medium 2 and/or 11, 37C, microaerophilic)

Campylobacter hyointestinalis subsp. *hyointestinalis* Gebhardt et al. emend. On et al.

- 3676^T ATCC 35217. (NCTC 11608). **Type strain.** Intestine of swine with proliferative enteritis. (Blood agar, 37C, Campylobacter gas pack, active catalyst, 48-72h).

Campylobacter jejuni subsp. *doylei* Steele and Owen

- 3516^T NCTC 11951. (ATCC 49349, CCUG 24567). **Type strain.** Faeces of child with diarrhoea. (Medium 2 and/or 11, 37C, microaerophilic)

Campylobacter jejuni subsp. *jejuni* (Jones et al.) Veron and Chatelain

- 1958 NCTC 11168. Biotype 1. Penner serotype 2. Faeces human enteritis. (Medium 2 and/or 11, 37C, microaerophilic)
- 2397^T NCTC 11351. (ATCC 33560, CCUG 11284, CIP 702, (DSM 4688). **Type strain.** Biotype 1. Penner serotype 23. Bovine faeces. (Medium 2 and/or 11, 37C, microaerophilic)
- 3242 ATCC 33291. Media quality control (NCCLS M22-A2). Human faeces. (Medium 2 and/or 11, 37C, microaerophilic)
- 3498 NCTC 11392. Strain 852/79. Biotype 2. Penner serotype 6. (Medium 2 and/or 11, 37C, microaerophilic)
- 3600 ATCC 29428. (CIP 103778, NCTC 11322). Biotype 1. Penner serotype 1. Diarrhoeic stool of child. (Medium 2 and/or 11, 37C, microaerophilic)
- 3785 NZ isolate SB 80/0018. (Skirrow 346/81) Biotype 1. Human faeces. (Medium 2 and/or 11, 37C, microaerophilic).

Campylobacter lari Benjamin et al.

- 2622^T NCTC 11352. (ATCC 35221, CCUG 10773, DSM 11375). **Type strain.** Herring gull cloacal swab. (Medium 2 and/or 11, 37C, microaerophilic)
- 3786 NZ isolate ER 93/1214. Chicken. (Medium 2 and/or 11, 37C, microaerophilic).

Campylobacter pylori see *Helicobacter pylori**Campylobacter upsaliensis* Sandstedt and Ursing

- 3675^T ATCC 43954. (DSM 5365, NCTC 11541). **Type strain.** Dog faeces. Sensitive to cefoperazone, unsuitable for QC of CAT selective medium. (Medium 2, 37C, microaerophilic)
- 4067 NZ isolate strain A73098. Deposited by Auckland Animal Health Laboratory. Faeces, Staffordshire bull terrier. (Medium 2, 37C, microaerophilic).

Also held in the Collection are a set of *Campylobacter* reference strains (*C. jejuni* and *C. coli*) for antiserum production, Penner's Serotyping Scheme.

Candida albicans (Robin) Berkhout

- 1212 ATCC 10231. (DSM 1386, NCPF 3179, NCYC 1363). Assay of haloprigin, amphotericin B and nystatin. Sterility testing. Control culture for quality control of selective mycology agars. (NCCLS M22-A2). Bronchomycosis case. (Medium 5, 25C)
- 2228 CDC S-24. Control strain for evaluation of modified Thayer Martin medium. (Medium 5, 25C)
- 2646 ATCC 2091. (CIP 1180.79, DSM 1665, NCYC 854). Sterility testing. (Medium 5, 25C)
- 3243 ATCC 60193. Media quality control strain (NCCLS M22-A2). Cervix. (In NZRM hands this strain is very atypical, useful for QC of Sabouraud Dextrose agar only.) (Medium 5, 25C)
- 3394 ATCC 90028. (DSM 11225). M A Pfaller NCCLS 11. Iowa. Antifungal susceptibility testing. J Clin Microbiol 1992; **30**: 3138-45. Blood. (Medium 5, 30C)
- 3395 ATCC 90029. M A Pfaller NCCLS 67. Iowa. Antifungal susceptibility testing. J Clin Microbiol 1992; **30**: 3138-45. Blood. (Medium 5, 25C)
- 3420 ATCC 66027. AmMS 225. Quality control of Microscan® yeast ID panel. (Medium 5, 25C)
- 4069 ATCC 14053. Strain NIH 3172. Quality control of bioMerieux Vitek products. Control strain for identification. Human blood. (Medium 5, 30C).
- 4070 ATCC 64548. Strain D-1. MIC testing, fluconazole sensitive. (Medium 5, 25C).
- 4071 ATCC 64550. Strain AD. MIC testing, fluconazole sensitive. Human skin. (Medium 5, 25C).

Candida glabrata (Anderson) Meyer and Yarrow

- 2931^T CBS 138 from Prof M Shepherd, Dunedin. (ATCC 2001). **Type strain.** Faeces. (Medium 5, 25C)
- 2932 CBS 2175 from Prof M Shepherd, Dunedin. (Medium 5, 25C)
- 3398 ATCC 90030. (DSM 11226). M A Pfaller NCCLS 84. (*Torulopsis glabrata*). Antifungal susceptibility testing. J Clin Microbiol 1992; **30**: 3138-45. Blood, Iowa. (Medium 5, 30C)
- 3426 ATCC 66032. AmMS 231. (*Torulopsis glabrata*). Quality control of Microscan® yeast ID panel. (Medium 5, 25C)

Candida kefyr (Beijerinck) van Uden et Buckley

3422 ATCC 66028. AmMS 226. (*Candida pseudotropicalis*). Quality control of Microscan® yeast ID panel. (Medium 5, 25C)

Candida krusei see *Issatchenkia orientalis**Candida parapsilosis* (Ashford) Langeron et Talice

3393 ATCC 90018. (DSM 11224). A Espinel-Ingroff 7312/52.493. Antifungal susceptibility testing. J Clin Microbiol 1992; **30**: 3138-45. Blood, Virginia. (Medium 5, 30C)

4072^T ATCC 22019. **Type strain**. Susceptibility testing. Control strain for identification. Case of sprue, Puerto Rico. (Medium 5, 30C).

Candida tropicalis (Castellani) Berkhout

2389 ATCC 13803. (DSM 5991). FDA PCI M-59. Assay of amphotericin B and nystatin. (Medium 5, 25C)

3423 ATCC 66029. AmMS 227. Quality control of Microscan® yeast ID panel. (Medium 5, 25C)

Capnocytophaga canimorsus Brenner et al.

2706 NZ isolate NHI SB83/0523. (CDC F4653). CDC Group DF-2. Blood. (Medium 2, 37C, 5% CO₂)

Capnocytophaga sp.

2760 NZ isolate NHI SB80/0788. (CDC F-98, 81-049126). CDC group DF-1. Blood. (Medium 3, 37C, 5% CO₂)

Capnocytophaga sputigena Leadbetter et al.

3679^T ATCC 33612. (DSM 7273). **Type strain**. Periodontal lesion. (Medium 2, 37C, 5% CO₂).

Cardiobacterium hominis Slotnick and Dougherty

840 CDC C4237. (Medium 2, 37C, 5% CO₂)

3787 NZ isolate SB 80/277. (CDC 80690590). Blood. (Medium 2, 37C, 5% CO₂)

Carnobacterium divergens (Holzapfel and Gerber) Collins et al.

Basonym: *Lactobacillus divergens*

3572^T NCIMB 11952. (ATCC 35677, DSM 20623, NCDO 2763). **Type strain**. Vacuum-packaged minced beef. (Medium 12, 30C)

Carnobacterium gallinarum Collins et al.

3575^T NCIMB 12848. (ATCC 49517, DSM 4847). **Type strain**. Ice slush from around chicken carcasses. (Medium 1, 25C)

Carnobacterium maltaromaticum (Miller et al.) Mora et al.

Synonym: *Carnobacterium piscicola*

Basonym: *Lactobacillus maltaromaticum*

3571^T NCIMB 2264. (ATCC 35586, DSM 20730, NCDO 2762). **Type strain**. Diseased rainbow trout. (Medium 12, 37C)

Carnobacterium mobile Collins et al.

3576^T NCIMB 12847. (ATCC 49516, DSM 4848). **Type strain**. Irradiated chicken meat. (Medium 1, 30C)

Carnobacterium piscicola see *Carnobacterium maltaromaticum*

CDC group. EF-4a

1072 NZ isolate NHI 74/1403. (CDC D667). Dog, neck wound. (Medium 1, 37C)

CDC group EO-2 see *Paracoccus yeei*CDC group IVc-2 see *Ralstonia paucula**Cedecea davisae* Grimont et al.

3181^T ATCC 33431. (CIP 80.34, DSM 4568, NCIB 11889, NCTC 11465). **Type strain**. Human

faeces. (Medium 1, 37C)

Cellulomonas cellulans see *Cellulosimicrobium cellulans*

Cellulomonas flavigena (Kellerman and McBeth) Bergey et al.

1176^T NCIB 8073. (ATCC 482, DSM 20109). **Type strain.** (Medium 2, 30C)

Cellulomonas turbata see *Oerskovia turbata*

Cellulosimicrobium cellulans (Metcalf and Brown) Schumann et al.

Basonym: *Cellulomonas cellulans*

2993 ATCC 27402. (DSM 46030, CIP 81.28, NCIMB 11025). Type strain of *Oerskovia xanthineolytica*. Aluminium hydroxide gel antacid. (Medium 2, 37C)

Chromobacterium violaceum Bergonzini

1082^T NCTC 9757. (ATCC 12472, DSM 30191, NCIB 9131). **Type strain.** Fresh water, Malaya. (Medium 1, 37C)

Chryseobacterium indologenes (Yabuuchi et al.) Vandamme et al.

Basonym: *Flavobacterium indologenes*

848 CDC B3707. CDC Group IIB. (Medium 1, 37C)

3406 ATCC 49471. AmMS 245. Quality control of Microscan® panels. Clinical isolate. (Medium 1, 37C)

3789 NZ isolate SB 85/0306. (CDC F7495, 86001620). Lung tissue. (Medium 1, 37C).

Chryseobacterium meningosepticum (King) Vandamme et al.

Basonym: *Flavobacterium meningosepticum*

847 CDC 3552. Spinal fluid, infant. Am J Clin Pathol 1959; **31**: 241-7. (Medium 1, 37C)

3408 ATCC 49470. AmMS 250. Quality control of Microscan® panels. Clinical isolate. (Medium 1, 37C)

Chryseomonas luteola see *Pseudomonas luteola*

Citrobacter amalonaticus (Young et al.) Brenner and Farmer

Basonym: *Levinea amalonatica*

2302 CDC 9020-77. (Medium 1, 37C)

Citrobacter ballerupensis (strains listed all confirmed as *Citrobacter freundii*)

8 NCTC 7820. (Medium 1, 37C)

39 NCTC 6021. Salmonella antigenic structure 29, Vi: z14. (Medium 1, 37C)

41 NCTC 6848. Salmonella antigenic structure 29, Vi: z39. (Medium 1, 37C)

Citrobacter diversus see *Citrobacter koseri*

Citrobacter freundii (Braak) Werkman and Gillen

982^T NCTC 9750. (ATCC 8090, DSM 30039, NCIMB 11490). **Type strain.** (Medium 1, 37C)

Citrobacter koseri Fredericksen

868 NCTC 10849. (ATCC 27156, DSM 4570). Type strain of *Citrobacter diversus*. (Medium 1, 37C)

Clostridium acetobutylicum McCoy et al. emend. Keis et al.

3381^T NCIMB 8052. (ATCC 824, DSM 792, IFO 13948). **Type strain.** Cornmeal. (Medium 4 and/or 9, 37C, anaerobic)

Clostridium baratii (Prevot) Holdeman and Moore

3677^T ATCC 27638. (DSM 601). **Type strain.** Canine renal epithelioma. (Medium 4 and/or 9, 37C, anaerobic).

Clostridium bifermentans (Weinberg and Seguin) Bergey et al.

1006 NCTC 1340. Carious tooth. (Medium 4 and/or 9, 37C, anaerobic)

Clostridium butyricum Prazmowski

2568^T NCTC 7423. (ATCC 19398, DSM 10702, NCIB 7423). **Type strain.** Pig intestine.

(Medium 4 and/or 9, 37C, anaerobic)

Clostridium chauvoei (Arloing et al.) Scott

99 NCTC 8070. (ATCC 19399). Suggested working type. Non pathogenic. Bovine.
(Medium 4 and/or 9, 37C, anaerobic)

Clostridium clostridiiforme (Burri and Ankersmit) Kaneuchi et al.

46 NCTC 7155. Perirenal abscess. (Medium 4 and/or 9, 37C, anaerobic)
1245 CDC 15862. (Medium 4 and/or 9, 37C, anaerobic)

Clostridium cochlearium (Douglas et al.) Bergey et al.

1957 NCTC 2909. (ATCC 19407, DSM 3588). Suggested working type. (*Clostridium tetanomorphum*). Saliva. (Medium 4 and/or 9, 37C, anaerobic)

Clostridium difficile (Hall and O'Toole) Prevot

2377 NZ isolate NHI 74/1351. (CDC A1800, NCTC 11382). Control for colitis assay. Blood.
(Medium 4 and/or 9, 37C, anaerobic)
2390^T ATCC 9689. (DSM 1296, NCIMB 10666, NCTC 11209). **Type strain**. Listed in NCTC
Catalogue as non-toxigenic. Listed in ATCC Catalogue as producing cytotoxin.
(Medium 4 and/or 9, 37C, anaerobic)
3605 ATCC 43593. Strain M Delmee 1351. Faeces of asymptomatic neonate. Serogroup B.
(Medium 4 and/or 9, 37C, anaerobic)

Clostridium histolyticum (Weinberg and Sequin) Bergey et al.

871 CDC 1942. (Medium 4 and/or 9, 37C, anaerobic)

Clostridium innocuum Smith and King

882 CDC 3415. (Medium 4 and/or 9, 37C, anaerobic)

Clostridium limosum Andre

872 CDC 8173. (Medium 4 and/or 9, 37C, anaerobic)
3792 NZ isolate 75/1845. (Medium 4 and/or 9, 37C, anaerobic).

Clostridium novyi (Migula) Bergey et al.

484 NCTC 277. Type A. Gas gangrene. (Medium 4 and/or 9, 37C, anaerobic)
1009 NCTC 6736. Type A. (Medium 4 and/or 9, 37C, anaerobic)
3501 ATCC 7659. Strain. I C Hall 1323. (Medium 4 and/or 9, 37C, anaerobic)

Clostridium paraputrificum (Bienstock) Snyder

883 CDC 13593. (Medium 4 and/or 9, 37C, anaerobic)

Clostridium perfringens (Veillon and Zuber) Hauduroy et al.

20^T NCTC 8237. (ATCC 13124, DSM 756, NCIMB 6125). Type A. **Type strain**.
Alpha-toxigenic, produces lecithinase. Reference strain for antimicrobial susceptibility
testing. Media quality control strain (NCCLS M22-A2).
(Medium 4 and/or 9, 37C, anaerobic)
21 NCTC 8359. (ATCC 12915). Type A. Heat resistant type 1. Stewed steak.
(Medium 4 and/or 9, 37C, anaerobic)
22 NCTC 8081. Type C. (Medium 4 and/or 9, 37C, anaerobic)
132 NCTC 8533. (NCIB 8693). Type B. Produces alpha-fucosidase.
(Medium 4 and/or 9, 37C, anaerobic)
133 NCTC 3227. Type C. (Medium 4 and/or 9, 37C, anaerobic)
134 NCTC 8504. Type D. (Medium 4 and/or 9, 37C, anaerobic)
135 NCTC 8084. Type E. (Medium 4 and/or 9, 37C, anaerobic)
887 CDC. (FH 2985/50, NCTC 8797). Type A. Heat resistant. Hobbs type 1.
(Medium 4 and/or 9, 37C, anaerobic)
888 CDC. (ATCC 12916, FH 281/50, NCIMB 13079, NCTC 8238). Type A. Heat resistant.
Hobbs type 2. (Medium 4 and/or 9, 37C, anaerobic)
889 CDC. (ATCC 14810, FH 2274/59, NCTC 10240). Type A. Heat resistant. Hobbs type 13.
(Medium 4 and/or 9, 37C, anaerobic)
890 CDC. (ATCC 12918, FH 1690/50, NCTC 8247). Type A. Heat resistant. Hobbs type 4.
(Medium 4 and/or 9, 37C, anaerobic)
891 CDC. (ATCC 12919, FH 167/51, NCTC 8678). Type A. Heat resistant. Hobbs type 5.

- (Medium 4 and/or 9, 37C, anaerobic)
- 892 CDC. (ATCC 12920, FH 3756/50, NCTC 8679). Type A. Heat resistant. Hobbs type 6.
(Medium 4 and/or 9, 37C, anaerobic)
- 893 CDC. (ATCC 12921, FH 1826/51, NCTC 8449). Type A. Heat resistant. Hobbs type 7.
(Medium 4 and/or 9, 37C, anaerobic)
- 894 CDC. (ATCC 12922, NCTC 8235, Strain 2204/51). Type A. Heat resistant. Hobbs type 8.
(Medium 4 and/or 9, 37C, anaerobic)
- 895 CDC. (FH 263/52, NCTC 8798). Type A. Heat resistant. Hobbs type 9.
(Medium 4 and/or 9, 37C, anaerobic)
- 896 CDC. (ATCC 12924, FH 1546/52, NCTC 8799). Type A. Heat resistant. Hobbs type 10.
(Medium 4 and/or 9, 37C, anaerobic)
- 897 CDC. (ATCC 12925, FH 4235/55, NCTC 9851). Type A. Heat resistant. Hobbs type 11.
(Medium 4 and/or 9, 37C, anaerobic)
- 898 CDC. (ATCC 14809, FH 5012/58, NCTC 10239). Type A. Heat resistant. Hobbs type 12.
(Medium 4 and/or 9, 37C, anaerobic)
- 899 CDC. (ATCC 12917, FH 3653/50, NCTC 8239). Type A. Heat resistant. Hobbs type 3.
(Medium 4 and/or 9, 37C, anaerobic)
- 1224 University Hospital, Seattle, Washington, USA. Seattle strain No. 1. Metronidazole
MIC (mg/L) 1.6-3.1. (Medium 4 and/or 9, 37C, anaerobic)
- 1701 NCTC 10611. (FH 7857/66). Type A. Heat resistant. Hobbs type 14.
(Medium 4 and/or 9, 37C, anaerobic)
- 1702 NCTC 10612. (FH 10209/66). Type A. Heat resistant. Hobbs type 15.
(Medium 4 and/or 9, 37C, anaerobic)
- 1703 NCTC 10613. (FH 1544/67). Type A. Heat resistant. Hobbs type 16.
(Medium 4 and/or 9, 37C, anaerobic)
- 1704 NCTC 10614. (FH 2063/67). Type A. Heat resistant. Hobbs type 17.
(Medium 4 and/or 9, 37C, anaerobic)
- 2258 Col. FH 1539/68. Type A. Hobbs type 29. Not heat resistant.
(Medium 4 and/or 9, 37C, anaerobic)
- 2259 Col. FH 3663/73. Type A. Hobbs type 41. Heat resistant.
(Medium 4 and/or 9, 37C, anaerobic)
- 2621 NCTC 8239 Norwegian variant. Type A. Heat resistant. Enterotoxin producing. Hobbs type 3.
(Medium 4 and/or 9, 37C, anaerobic)
- 2977 NCTC 11144. (FH 4715/75). Type A. Heat resistant. Type 25,27,31,68. Beef, food poisoning
outbreak. (Medium 4 and/or 9, 37C, anaerobic)

Clostridium ramosum (Veillon and Zuber) Holdeman et al.

- 873 CDC 8179. (Medium 4 and/or 9, 37C, anaerobic)

Clostridium septicum (Mace) Ford

- 18^T NCTC 547. (ATCC 12464, DSM 7534, NCIB 547). **Type strain.** Robertsons type 1.
Estimation of ornithine. (Medium 4 and/or 9, 37C, anaerobic)

Clostridium sordellii (Hall and Scott) Prevot

- 884 CDC 14337. (Medium 4 and/or 9, 37C, anaerobic)
- 3421^T ATCC 9714. (DSM 2141, NCIB 10717). GB Reed 211. **Type strain.**
(Medium 4 and/or 9, 37C, anaerobic)
- 4032 NZ isolate AK 2000. Human blood. (Medium 4 and/or 9, 37C, anaerobic).

Clostridium sp.

- 1215 ATCC 25772. (DSM 1786, VPI 2461). *Clostridium hastiforme*.
(Medium 4 and/or 9, 37C, anaerobic)

Clostridium sphenoides (Douglas et al.) Bergey et al.

- 874 CDC 6616. (Medium 4 and/or 9, 37C, anaerobic)
- 1135^T NCTC 507. (ATCC 19403, DSM 632, NCIB 10627). **Type strain.**
(Medium 4 and/or 9, 37C, anaerobic)

Clostridium sporogenes (Metchnikoff) Bergey et al.

- 254 NZ isolate 1966. (Medium 4 and/or 9, 37C, anaerobic)
 1097 NCTC 532. (ATCC 19404, DSM 1664, NCIB 532). Sterility testing. Gas gangrene. (Medium 4 and/or 9, 37C, anaerobic)
 1221 Wadsworth VA Hospital, Los Angeles, USA. Wadsworth strain No. 2253. Metronidazole MIC (mg/L) 0.125. (Medium 4 and/or 9, 37C, anaerobic)
 2997 NCIB 8053. (ATCC 7955, DSM 767, NCTC 8594). Strain NCA 3679. Cameron's Putrefactive Anaerobe. (Medium 4 and/or 9, 37C, anaerobic)
 3502^T ATCC 3584. (DSM 795, NCIMB 10696). Strain. I C Hall 388. **Type strain**. Sporicidal testing, AOAC methods. (Medium 4 and/or 9, 37C, anaerobic)

Clostridium subterminale (Hall and Whitehead) Spray

- 885 CDC 13869-1. (Medium 4 and/or 9, 37C, anaerobic)

Clostridium tertium (Henry) Bergey et al.

- 875 CDC 14338. (Medium 4 and/or 9, 37C, anaerobic)
 3794 NZ isolate AB 89/0044. (CDC 890249, 89025037) Wound. (Medium 4 and/or 9, 37C, anaerobic).

Clostridium tetani (Flügge) Bergey et al.

- 19^T NCTC 279. (ATCC 19406). Tulloch type I. **Type strain**. Toxigenic. (Medium 4 and/or 9, 37C, anaerobic)
 252 NZ isolate NHI 66/4475. Toxigenic. (Medium 4 and/or 9, 37C, anaerobic)
 253 NZ isolate NHI 63/4875. Toxigenic. (Medium 4 and/or 9, 37C, anaerobic)

Clostridium tetanomorphum (Bulloch et al.) Bergey et al.

- 3382 NCIMB 11547. (ATCC 15920, DSM 528). Soil. (Medium 4 and/or 9, 37C, anaerobic)

Clostridium thermosaccharolyticum see *Thermoanaerobacterium thermosaccharolyticum**Clostridium tyrobutyricum* van Beynum and Pette

- 3331 NZDRI 20079. (NCDO 1715). (Medium 4 and/or 9, 37C, anaerobic)

Comamonas acidovorans see *Delftia acidovorans**Comamonas testosteroni* (Marcus and Talalay) Tamaoka et al.

- Basonym: *Pseudomonas testosteroni*
 854 CDC B6475. (Medium 1, 37C)

Corynebacterium amycolatum Collins et al.

- 3623^T DSM 6922. (ATCC 49368, NCIMB 13130). **Type strain**. (Medium 1, 37C)

“*Corynebacterium aquaticum*” see *Leifsonia aquatica**Corynebacterium auris* Funke et al.

- 3625^T DSM 44122. (ATCC 51966, CCUG 33426). **Type strain**. Patient with otitis media. (Medium 1, 37C)

Corynebacterium bovis Bergey et al.

- 817^T NCTC 3224. (ATCC 7715, DSM 20582). **Type strain**. Milk. (Medium 2, 37C)

Corynebacterium diphtheriae (Kruse) Lehmann and Newmann

- 23 NCTC 3984. (ATCC 19409). var. *gravis*. Suitable as weakly positive control for toxin production on Elek's medium. (Medium 2, 37C)
- 24 NCTC 3987. var. *intermedius*. Toxigenic. (Medium 2, 37C)
- 25 NCTC 3989. var. *mitis*. Toxigenic. (Medium 2, 37C)
- 96 NZ isolate - Whangarei 1955. var. *mitis*. Toxigenic. (Medium 2, 37C)
- 108 NCTC 3544. var. *gravis*. Untyped. (Medium 2, 37C)
- 247 Public Health Laboratory, Manchester. var. *gravis*. Toxigenic. (Medium 2, 37C)
- 248 Public Health Laboratory, Manchester. var. *mitis*. Avirulent. (Medium 2, 37C)
- 249 Public Health Laboratory, Manchester. var. *mitis*. Virulent. (Medium 2, 37C)
- 1096 NCTC 10681. (ATCC 14779). var. *intermedius* (*Corynebacterium diphtheriae* var. *minimus*). Toxigenic. (Medium 2, 37C)

Corynebacterium equi see *Rhodococcus equi*

Corynebacterium fascians see *Rhodococcus fascians*

"*Corynebacterium genitalium*" Furness and Evangelista

- 2990 ATCC 33030. (NCTC 12451). Type 1. Clinical isolate. (Medium 2, 37C)

Corynebacterium glucuronolyticum Funke et al.

- 3659 NZ isolate SB 98/26. Abscess. (Medium 1, 37C).

Corynebacterium jeikeium Jackman et al.

- 2761 NZ isolate NHI SB 79/0064. (CDC 79118387). Peritoneal dialysis fluid. (Medium 2, 37C)

Corynebacterium kroppenstedtii Collins et al.

- 4093 NZ isolate SB 01/392. Breast infection. (Medium 2, 37C).

Corynebacterium kutscheri (Migula) Bergey et al.

- 819 NCTC 949. Mouse. (Medium 1, 37C)

Corynebacterium macginleyi Riegel et al.

- 4173 NZ isolate SB 00/394. Eye. (Medium 2, 37C).

Corynebacterium matruchotii (Mendell) Collins

Basonym: *Bacterionema matruchotii*

- 2979^T NCTC 10254. (ATCC 14266, DSM 20635). **Type strain**. (Medium 2, 37C)

Corynebacterium minutissimum Collins and Jones emend. Yassin et al.

- 1079^T NCTC 10288. (ATCC 23348, CDC KC 1381, DSM 20651). **Type strain**. Erythrasma. (Medium 1, 37C)

Corynebacterium paurometabolum see *Tskuramurella paurometabolum*

"*Corynebacterium petrophilum*"

- 2522 ATCC 19080. Production of L-glutamic acid, production of a "specialised" activated sludge, production of restriction enzymes. (Medium 1, 37C)

Corynebacterium pseudodiphtheriticum Lehmann and Newmann

- 27 NCTC 231. (DSM 46628, NCDO 1570). (Medium 1, 37C)

"*Corynebacterium pseudogenitalium*" Furness et al.

- 2991 ATCC 33035. Type C-1. Normal human. (Medium 2, 37C)

Corynebacterium pseudotuberculosis (Buchanan) Ebersson

- 870 RARC. (Medium 1, 37C)
- 3004^T NCTC 3450. (ATCC 19410, DSM 20689). **Type strain**. Infected gland of sheep. (Medium 1, 37C)

Corynebacterium pyogenes see *Arcanobacterium pyogenes*

- Corynebacterium renale* (Migula) Ernst
 915 RARC. (Medium 1, 37C)
 3003^T NCTC 7448. (ATCC 19412, DSM 20688). **Type strain.** Cow. (Medium 1, 37C)
- Corynebacterium riegelii* Funke et al.
 4095 NZ isolate SB 01/463. Peritoneal dialysis fluid. (Medium 2, 37C).
- Corynebacterium striatum* (Chester) Ebersson
 3283 NZ isolate SB90/166. (CDC G5905). Blood. (Medium 1, 37C)
- Corynebacterium tuberculostearicum* Brown et al.
 4110 NZ isolate AKAH. Breast abscess. (Medium 2, 37C).
- Corynebacterium ulcerans* Riegel et al.
 818 NCTC 7907. Human tonsillitis. (Medium 1, 37C)
- Corynebacterium urealyticum* Pitcher et al.
 2938 NZ isolate NHI SB82/0590. (CDC F3903). Urine. (Medium 2, 37C)
- Corynebacterium xerosis* Lehmann and Newmann
 28 NCTC 8481. Vagina. Note: Not a typical strain of the species. (Medium 2, 37C)
 2587^T ATCC 373. (DSM 20294). **Type strain.** Ear discharge of child. (Medium 1, 37C)
- Cryptococcus albidus* (Saito) Skinner
 3424 ATCC 66030. AmMS 228. Quality control of Microscan® yeast ID panel.
 (Medium 5, 25C)
- Cryptococcus laurentii* (Kufferath) Skinner
 3510^T ATCC 18803. (CBS 139). **Type culture.** Palm wine, mallafou. (Medium 5, 25C)
- Cryptococcus neoformans* (Sanfelice) Vuillemin
 3396 ATCC 90112. (DSM 11959). A Espinel-Ingroff 7588/9.854. MCV 3. NCCLS 88. Pennsylvania. Antifungal susceptibility testing. J Clin Microbiol 1992; **30**: 3138-45. Cerebrospinal fluid. (Medium 5, 25C)
 3397 ATCC 90113. A Espinel-Ingroff 7241/9.829. MCV 13. NCCLS 98. Pennsylvania. Antifungal susceptibility testing. J Clin Microbiol 1992; **30**: 3138-45. Cerebrospinal fluid. (Medium 5, 25C)
 3425 ATCC 66031. AmMS 229. Quality control of Microscan® yeast ID panel. (Medium 5, 25C)
 3511^T ATCC 32045. (CBS 132). **Type strain.** Fermenting fruit juice. (Medium 5, 25C)
- Cryptococcus uniguttulatus* (Wolfram et Zach) Phaff et Fell
 3427 ATCC 66033. AmMS 234. Quality control of Microscan® yeast ID panel. (Medium 5, 25C)
- Curtobacterium albidum* (Komagata and Iizuka) Yamada and Komagata
 2521^T ATCC 15831. (DSM 20512, NCIMB 11030). **Type strain.** Production of restriction enzymes. (*Brevibacterium albidum*). Chinese paddy. (Medium 1, 30C)
- Cytophaga heparina* see *Pedobacter heparinus*
- Delftia acidovorans* (den Dooren de Jong) Wen et al.
 Basonym: *Comamonas acidovorans*
 850 CDC B4634. (Medium 1, 37C)
 2021 ATCC 11299a. (NCIB 9289). Colonial variant segregated from Hutner's strain Tr-6. Oxidises tryptophan via the quinoline pathway. Enzymatic activity of "colonial variants" found in culture is the same. (Medium 1, 37C)

Dermabacter hominis Jones and Collins

- 3491^T ATCC 49369. (DSM 7083, NCIMB 13131). **Type strain.** Skin. (Medium 1, 37C)
 3622 NZ isolate SB95/023. Aortic leaflet. (Medium 1, 37C)

Dermatophilus congolensis (van Saceghem) Gordon

- 857 RARC. Sheep. (Medium 2, 37C)
 3182 NZ isolate NZCDC MY 90/205. Leg pustule, farmer. (Medium 2, 37C)

Desulfovibrio desulfuricans (Beijerinck) Kluyver and van Neil

- 3082 NZ isolate NHI AB 87/0660. (CDC 890246). Vulval abscess.
 (Medium 4 and/or 9, 37C, anaerobic)

Edwardsiella tarda Ewing and McWhorter

- 867^T NCTC 10396. (ATCC 15947, DSM 30052). **Type strain.** Human faeces.
 (Medium 1, 37C)

Eggerthella lenta (Eggerth) Wade et al.

Basonym: *Eubacterium lentum*

- 2571^T ATCC 25559. (DSM 2243, NCTC 11813, VPI 0255). **Type strain.** Rectal tumour.
 (Medium 4 and/or 9, 37C, anaerobic)
 3606 ATCC 43055. Recommended reference strain for anaerobic antimicrobial susceptibility
 testing (NCCLS M11-A3). Abdominal wound. (Medium 4 and/or 9, 37C, anaerobic)

Eikenella corrodens (Eiken) Jackson and Goodman

- 1008^T NCTC 10596. (ATCC 23834, DSM 8340). **Type strain.** Sputum. (Medium 2, 37C, 5% CO₂)
 3799 NZ isolate 73/1901. Finger lesion. (Medium 2, 37C, 5% CO₂).

Enterobacter aerogenes Hormaeche and Edwards

- 798^T NCTC 10006. (ATCC 13048, DSM 30053, NCIMB 10102). **Type strain.** Sputum.
 (Medium 1, 37C)
 859 CDC 659-66. (ATCC 29009). (Medium 1, 37C)

Enterobacter agglomerans see *Pantoea agglomerans**Enterobacter cloacae* (Jordan) Hormaeche and Edwards

- 858 CDC 5932-70. (ATCC 29006). Urine. (Medium 1, 37C)
 2236 HSC 18410/61. From Hospital for Sick Children, Toronto, Canada. Microassay of gentamycin in
 presence of beta-lactam antibiotics. (Medium 1, 37C)
 2375^T NCTC 10005. (ATCC 13047, DSM 30054, NCIMB 10101). **Type strain.** Cerebrospinal fluid.
 3497 ATCC 23355. Phage host, produces cephalosporinase. (Medium 1, 37C)

Enterobacter gergoviae Brenner et al.

- 2030^T CDC 604/77. (ATCC 33028, CIP 76.01, DSM 9245, NCTC 11434). **Type strain.** Urine.
 (Medium 1, 37C)

Enterobacter intermedius Izard et al.

- 3284 NZ isolate ER91/2712. Water. (Medium 1, 37C)

Enterobacter sakazakii Farmer et al.

- 50 NCTC 8155. (NCIMB 8272). Tin of dried milk. (Medium 1, 37C)
 2029^T CDC 4562/70. (ATCC 29544, DSM 4485, NCTC 11467). **Type strain.** DNA hybridisation
 reference strain. Throat. (Medium 1, 37C)

Enterococcus avium Collins et al.

- 2277^T NCTC 9938. (ATCC 14025, DSM 20679, NCDO 2369). Strain E6844. Preparation of group Q
 antiserum. **Type strain.** "*Streptococcus avium*". (Medium 2, 37C)

Enterococcus casseliflavus Collins et al.

Basonym: *Streptococcus casseliflavus*

- 3293 ATCC 12817. Motile. Buccal cavity, patient with pernicious anaemia. Comment: Acid from
 sorbitol in NZRM hands. (Medium 2, 37C)

Enterococcus colombae Devriese et al.

- 3574^T NCIMB 13013. (ATCC 51263, DSM 7374). **Type strain.** Pigeon liver. (Medium 2, 37C, 5% CO₂)

Enterococcus durans Collins et al.

- 1235^T NCTC 8307. (ATCC 19432, DSM 20633, NCDO 596). **Type strain.** Preparation of group D antiserum. Strain 98D Sherman. (Medium 2, 37C)
- 3411 ATCC 49135. AmMS 206. Quality control of Microscan® panels. Clinical isolate. (Medium 2, 37C)

Enterococcus faecalis (Andrewes and Horder) Schleifer and Kilpper-Balz

Basonym: *Streptococcus faecalis*

- 89 NCTC 370. Resistant to bacitracin. Strain Stubbs IV (Elstree 35). (Medium 2, 37C)
- 152 NZ isolate NHI 64/10636. var. *liquefaciens*. (Medium 2, 37C)
- 1106^T NCTC 775. (ATCC 19433, DSM 20478, NCDO 581, NCIMB 775). **Type strain.** Strain Tissier. (Medium 2, 37C)
- 1239 NCTC 2705. var. *liquefaciens*. Strain Huckler 15. (Medium 2, 37C)
- 1240 NCTC 5957. (ATCC 6055). var. *zymogenes*. Pasteurised milk. (Medium 2, 37C)
- 2244 ATCC 29212. (DSM 2590, NCIMB 13280, NCTC 12697). Control for aerobic antimicrobial susceptibility testing. (NCCLS M2-A6; M7-A4). Media quality control strain (NCCLS M22-A2). Urine. (Medium 2, 37C)
- 2262 ATCC 14506. (DSM 2981). FDA strain PCI 1325. Quality control of antibiotic sensitivity discs. Resistant to gentamicin. Cylinder plate assay of gramicidin. (Medium 2, 37C)
- 3178 Strain HH22 from Barbara E Murray, University of Texas, Houston. Beta-lactamase producing. Urine. MIC gentamicin \geq 2048 mg/L. (Medium 2, 37C)
- 3301 NZ isolate AS90/50. MIC gentamicin \geq 2048 mg/L. Urine. (Medium 2, 37C)
- 3488 ATCC 51299. Strain FC Tenover NJ-3. Low-level vancomycin-resistant, Van B. Quality control strain for vancomycin and high-level aminoglycoside screening tests for enterococci. Peritoneal fluid. (Medium 2, 37C)
- 3601 NZ isolate AR96/0360. High-level vancomycin-resistant enterococcus, Van A. CAPD fluid. (Medium 2, 37C)
- 4061 Strain POW 1994. Control strain for CDS method of antibiotic sensitivity testing. From Prince of Wales Hospital, Randwick, NSW, Australia. (Medium 2, 37C).

Enterococcus faecium (Orla-Jensen) Schleifer and Kilpper-Balz

Basonym: *Streptococcus faecium*

- 1236^T NCTC 7171. (ATCC 19434, DSM 20477, NCDO 942, NCIMB 11508). **Type strain.** (Medium 2, 37C)
- 4037 NZ isolate AR 01/138. Multiply-resistant vancomycin resistant enterococcus. Peritoneal dialysis fluid. (Medium 2, 37C).

Enterococcus hirae Farrow and Collins

- 1177^T ATCC 8043. (DSM 20160, NCIB 6459). **Type strain.** Assay of folic acid, pyridoxal and pyridoxamine. Serological group D. (Medium 2, 37C)
- 2215 ATCC 10541. (DSM 3320, NCIB 8192). PCI 1341. Turbidimetric assay of tyrothricin and gramicidin. (Medium 2, 37C)

Enterococcus pseudoavium Collins et al.

- 3630^T DSM 5632. (ATCC 49372, NCIMB 13084). **Type strain.** Bovine mastitis. (Medium 2, 37C)

Enterococcus sulfureus Martinez-Murcia and Collins

- 3570^T NCIMB 13117. (ATCC 49903, CIP 104373, DSM 6905, NCDO 2379). **Type strain.** Plant material. (Medium 2, 37C)

Erwinia carotovora subsp. *carotovora* see *Pectobacterium carotovora* subsp. *carotovora**Erysipelothrix rhusiopathiae* (Migula) Buchanan

- 45^T NCTC 8163. (ATCC 19414, DSM 5055). **Type strain.** Spleen of pig with endocarditis. (Medium 2, 37C)

Escherichia adecarboxylata see *Leclercia adecarboxylata*

“*Escherichia aurescens*” (Parr) Malligo et al.

1285 CDC 448-77. (Medium 1, 37C)

Escherichia coli (Migula) Castellani and Chalmers

- 29 NCTC 8196. (DSM 10233, NCDO 745, NCIMB 8277). *Bacterium coli* type I. Disinfectant test strain. (Medium 1, 37C)
- 31 NCTC 4174. (NCIMB 4174). *Bacterium coli-anaerogenes*. Human excreta. (Medium 1, 37C)
- 32 NCTC 122. (ATCC 23461). *Bacterium acidi-lactici*. (Medium 1, 37C)
- 33 NCTC 86. (ATCC 4157, DSM 301, NCIB 86). *Bacterium coli* var. *commune*. Antigenically O rough : H10. Disinfectant test strain. (Medium 1, 37C)
- 36 NCTC 8008. (NCIMB 8273). 0111 : K58 (B4) : H12. Strain D2101. *Bacterium coli* (anaerogenic) type D433. (Medium 1, 37C)
- 37 NCTC 8603. 055 : K59 (B5) : H6. Strain Aberdeen beta. *Bacterium coli* I type beta. Infantile diarrhoea. (Medium 1, 37C)
- 40 NCTC 7921. Type I. *Escherichia dispar*. (Medium 1, 37C)
- 43 NCTC 7925. Serotype I. *Escherichia alkalescens*. (Medium 1, 37C)
- 250 Dr M G Smith, University of Otago Medical School. K12 W3110. (Medium 1, 37C)
- 251 Dr M G Smith, University of Otago Medical School. K12 W3110 Lambda. (Medium 1, 37C) 480
- NCTC 10418. (ATCC 10536, DSM 682, NCIB 8879, PCI 540, WHO 5). American Cynamid Co strain MacLeod. Antibiotic assay and sensitivities. (Medium 1, 37C)
- 730 Col Sal Sc 385. (NCTC 10863). Strain D-M3219-54. 018ac : K77 : H7. Faeces, infant diarrhoea. (Medium 1, 37C)
- 731 Col Sal Sc 239. (NCTC 9026). Strain H3116 or H311G. 026 : K60 : H11. (Medium 1, 37C) 732
- Col Sal Sc 153. (NCTC 9044). Strain H702c. 044 : K74 : H18. (Medium 1, 37C)
- 733 Col Sal Sc 245. (NCTC 9055). Strain Su 3912/41. 055 : K59 : H-. (Medium 1, 37C)
- 734 Col Sal Sc 275. (NCTC 9086). Strain H35. 086 : K7 : H25. (Medium 1, 37C)
- 735 Col Sal Sc 459. (DSM 10234, NCIMB 13058, NCTC 9111). Strain Stoke W. 0111 : K58 : H-. (Medium 1, 37C)
- 736 Col Sal Sc 506. Strain Guarabara (M194) 0112ac : K66 : H-. (Medium 1, 37C)
- 737 Col Sal Sc 461. (NCTC 9114). Strain 26W. 0114 : K90 : H32. (Medium 1, 37C)
- 738 Col Sal Sc 460. (NCTC 9119). Strain 34W. 0119 : K69 : H27. (Medium 1, 37C)
- 739 Col Sal Sc 496. Strain Ewing 227.0124 : K72 : H30. (Medium 1, 37C)
- 740 Col Sal Sc 100. (NCTC 8623). Strain Canioni. 0125 : K70 : H19. (Medium 1, 37C)
- 741 Col Sal Sc 102. (NCTC 8622). Strain E611 Taylor. 0126 : K71 : H2. (Medium 1, 37C)
- 742 Col Sal Sc 503. (NCTC 9707). Strain Ewing 4932/53. 0127 : K67 : H-. (Medium 1, 37C)
- 743 Col Sal Sc 121. (NCTC 9708). Strain Cigleris, 0128 : K67 : H2. (Medium 1, 37C)
- 916 CDC F-2. (ATCC 25922, DSM 1103, NCIMB 12210, NCTC 12241). Seattle strain. Recommended reference strain for aerobic antimicrobial susceptibility testing (NCCLS M2-A6; M7-A4). Media quality control strain (NCCLS M22-A2). Clinical isolate. (Medium 1, 37C)
- 962 CDC Su.4411-41. (ATCC 19110, NCTC 9014). 014 (K7L7:NM) *Escherichia coli* common antigen). Urine. (Medium 1, 37C)
- 979 NCTC 8164. (ATCC 29417, NCIB 10115). *Bacterium coli* type II. RNA-ase I deficient. (Medium 1, 37C)
- 993 NCTC 7152. Contains alpha-antigen. *Bacterium wakefield*. (Medium 1, 37C)
- 1145 CDC 99-70. 01:NM Alkaescens - dispar 01. Antiserum preparation. (Medium 1, 37C)
- 1146 CDC 1773-68. 025:NM Alkaescens - dispar 02. Antiserum preparation. (Medium 1, 37C)
- 1147 CDC 5636-64. 025:NM Alkaescens - dispar 03. Antiserum preparation. (Medium 1, 37C)
- 1148 CDC 774-56. 04:NM Alkaescens - dispar 04. Antiserum preparation. (Medium 1, 37C)
- 1149 CDC 3121-63. 02:NM Alkaescens - dispar 05. Antiserum preparation. (Medium 1, 37C)
- 1150 CDC 4878-54. 09:NM Alkaescens - dispar 06. Antiserum preparation. (Medium 1, 37C)
- 1151 CDC 1868-62. 07:NM Alkaescens - dispar 07. Antiserum preparation. (Medium 1, 37C)
- 1152 CDC 1143-51. 081:NM Alkaescens - dispar 08. Antiserum preparation. (Medium 1, 37C)
- 1241 CDC 3111-76. Urea positive. (Medium 1, 37C)
- 1242 CDC 3441-76. H₂S producing. (Medium 1, 37C)
- 1302 Strain U9/41. Col Sal 393 (NTCC 9002). Received from K A Bettelheim. Testing of quaternary ammonium compounds. (Medium 1, 37C)
- 1326 Strain E 893. Col Sal 165. (NCTC 8620). 026 : K60 (B6) : H-. Received from K A Bettelheim. Case of diarrhoea. (Medium 1, 37C)
- 2011 University of Texas Medical School. Strain H10407. Colonisation factor antigen (CFA) positive. (Medium 1, 37C)
- 2012 University of Texas Medical School. Strain H10407-p. Colonisation factor antigen

- (CFA) negative. (Medium 1, 37C)
- 2220 ATCC 29214. Wellcome Research Lab S5081. Testing of antibiotic sensitivity discs including rifampin. Trimethoprim sensitive but sulfonamide resistant. Patient with urinary tract infection. (Medium 1, 37C)
- 2227 CDC S-29. Control strain for evaluation of modified Thayer Martin Medium. (In NZRM hands resembles a *Klebsiella* sp.) (Medium 1, 37C)
- 2246 ATCC 29891. Strain MB3804. Assay of cefoxitin. (Medium 1, 37C)
- 2282 CDC 711. Heat stable enterotoxin positive (ST+). K12 (B41). (Medium 1, 37C)
- 2395 Dr K Neilsen, Canada. Strain 4216 5A2. 0116 : H21. Serologically reacts with *Brucella abortus*. (Medium 1, 37C)
- 2577 ATCC 8739. (DSM 1576, NCIMB 8545). Used in preservative testing of parenteral and ophthalmic preparations. Assay of antimicrobial preservatives. (Medium 1, 37C)
- 2582 ATCC 11229. (DSM 787, NCIMB 9157). Test organism in the AOAC test for germicide activity in swimming pool water. Testing of bacterial resistance of latex paints, disinfectants, sanitisers, membrane filters. (Medium 1, 37C)
- 2690 ATCC 15224. A Kepes ML308. Constitutive for beta-galactosidase. (Medium 1, 37C)
- 2717 ATCC 23226. (DSM 499). R F Hill strain B wild type. (Medium 1, 37C)
- 2718 ATCC 13706. (DSM 4860, NCIMB 10544, NCIMB 12416). R L Sinsheimer strain C. Phage host. Detection of coliphages in water. (Medium 1, 37C)
- 2745 Prof Wadstrom, Uppsala, Sweden. Strain 1628-15, Test strain for CFA I. (Medium 1, 37C)
- 2746 Prof Wadstrom, Uppsala, Sweden. Strain C921b-1, Test strain for CFA II. (Medium 1, 37C)
- 2749 NCTC 11560. Beecham Research Labs No. 1077. Beta-lactamase producing, for control testing of augmentin, MIC (mg/L) amoxycillin/clavulanic acid 8.0/4.0. (Medium 1, 37C)
- 2750 ATCC 14169. (NCIB 9270). Glaxo Labs M-200. Assay of vitamin B12 by the cup plate method. (Medium 1, 37C)
- 2988 Strain G K Morris EDL 931 (ATCC 35150). from Dr Tzipori, Australia. Obtained from CDC. 0157:H7. Produces verotoxin (VT+). Human faeces. (Medium 1, 37C)
- 3020 Animal Health Services Centre, Massey University, Palmerston North, strain PNAL C 87064035. K99, heat stable toxin positive (ST+). (Medium 1, 37C)
- 3021 Animal Health Services Centre, Massey University, Palmerston North, RARC isolate. 0101 K99, heat stable toxin positive (ST+). (Medium 1, 37C)
- 3084 ATCC 35218. (DSM 5923, NCTC 11954). Beecham 1532. Produces beta-lactamase. Control for aerobic antimicrobial susceptibility testing (NCCLS M2-A6, M7-A4). Canine. (Medium 1, 37C)
- 3228 ATCC 29194. Control organism for Autobac 1TM system. Antibiotic susceptibility control. Urine. (Medium 1, 37C)
- 3262 NZRM variant. (DSM 12242). Nalidixic acid resistant (MIC 64 mg/L), derived from NZRM 2718 (ATCC 13706). (Medium 29, 37C)
- 3294 National Laboratory for Sexually Transmitted Diseases, Ottawa, Ontario. pG04717/C600. Rio plasmid (2.9 Md). (Medium 1, 37C)
- 3309^T ATCC 11775. (DSM 30083, NCIMB 11943, NCTC 9001). Strain U5/41. **Type strain**. Urine. (Medium 1, 37C)
- 3341 NCTC 5934. (NCIB 9132). Disinfectant test strain for quaternary ammonium compounds. (Medium 1, 37C)
- 3441 NZ isolate ER93/2637. Type 0157:H7. Verotoxin producing (VT+). CDNZ 1993; **93**: 113-6. (Medium 1, 37C)
- 3481 NZ isolate WNPH85/3005. Porcine strain from Massey University, Palmerston North. Type 0138, heat labile enterotoxin positive (LT+). (Medium 1, 37C)
- 3536 NZ isolate ER85/4674. Type 026. Produces verotoxin (VT+). (Medium 1, 37C)
- 3537 NZ isolate ER 85/5174. Type 026. Produces verotoxin (VT+). (Medium 1, 37C)
- 3614 NCTC 12900. Type O157:H7. Verotoxin negative (VT-). (Medium 1, 37C)
- 3616 NZ isolate ER97/1183. Type O113:H21. Produces verotoxin (VT+). (Medium 1, 37C)
- 3631 Strain RR. Assay of f-DNA phage. Deposited by L W Sinton ← A Donnison ← V J Cabelli (Medium 28, 37C)
- 3647 Strain BTA 2850. 0157: H7. Verotoxin negative. From child, Australia. (Medium 1, 37C).
- 3680 ATCC 15597. Strain C-3000. Phage host. (Medium 1, 37C).
- 3682 NZ isolate AR 97/44. Augmentin resistant control, MIC 64 mg/L. Urine. (Medium 1, 37C).
- 4027 Strain HS (pFamp)R. Host for the recovery of F-specific phages from polluted water. Deposited by L. Sinton, ESR, Christchurch. (Medium 1, 37C).
- 4073 ATCC 51446. Strain V1076. Quality control strain for the Vitek test kit. Clinical isolate. (Medium 1, 37C).

- 4086 CDC strain G5244. 0157:H7. Verotoxin producing (VT+). PulseNet Universal size standard. (Medium 1, 37C).

Also held in the Collection are *Escherichia coli* strains for plasmid studies, standard 'O', 'H' and 'K' serotypes and ligated rabbit gut loop test strains.

Eubacterium alactolyticum see *Pseudoramibacter alactolyticus*

Eubacterium lentum see *Eggerthella lenta*

Eubacterium limosum (Eggerth) Prevot

- 2572^T ATCC 8486. (DSM 20543, NCIB 9763). **Type strain.** (Medium 4 and/or 9, 37C, anaerobic)

Eubacterium rectale (Hauduroy et al.) Prevot

- 3241 ATCC 35183. Sceptor[®] QC strain. Clinical isolate. (Medium 4 and/or 9, 37C, anaerobic)

Ewingella americana Grimont et al.

- 2766^T ATCC 33852. (CDC I468-78, CIP 8194, DSM 4580). **Type strain.** Human throat. (Medium 1, 37C)

Exophiala spinifera (Nielson et Conant) McGinnis

- 3231 ATCC 14488. Taxonomy. From chromoblastomycosis case. (Medium 13 or 26, 30C)

Faenia rectivirgula see *Saccharopolyspora rectivirgula*

Finegoldia magna (Prevot) Ezaki et al.

Basonym: *Peptococcus magnus*

Basonym: *Peptostreptococcus magnus*

- 2382 ATCC 14956. Postpartum uterus. (Medium 4 and/or 9, 37C, anaerobic)

- 3419 ATCC 29328. (DSM 20472). Wadsworth Anaerobic Bacteriol Res Lab WAL2508. Abdominal wound. (Medium 4 and/or 9, 37C, anaerobic)

Flavimonas oryzihabitans see *Pseudomonas oryzihabitans*

Flavobacterium heparinum see *Pedobacter heparinus*

Flavobacterium indologenes see *Chryseobacterium indologenes*

Flavobacterium meningosepticum see *Chryseobacterium meningosepticum*

Flavobacterium multivorum see *Sphingobacterium multivorum*

Flavobacterium odoratum see *Myroides odoratus*

Flavobacterium species CDC group IIc

- 1220 NZ isolate NHI 76/0886. (CDC D6615). J Clin Microbiol 1996; **34**: 2322-4. Leg wound. (Medium 1, 37C)

Flavobacterium species CDC group II f see *Weeksella virosa*

Flavobacterium spiritivorum see *Sphingobacterium spiritivorum*

Fluoribacter bozemanæ Garrity et al.

Basonym: *Legionella bozemanæ*

- 2701^T ATCC 33217. (NCTC 11368). R McKinney strain WIGA. **Type strain.** Media quality control strain (NCCLS M22-A2). Lung tissue. (Medium 6, 37C, 5% CO₂)

- 2966 CDC. (ATCC 35545, NCTC 11975). Strain Toronto 3. Serogroup 2. Lung aspirate. (Medium 6, 37C, 5% CO₂)

Fluoribacter dumoffii (Brenner et al.) Brown et al.

Basonym: *Legionella dumoffii*

- 2702^T ATCC 33279. (NCTC 11370). R Weaver NY23. **Type strain.** Cooling tower.

- (Medium 6, 37C, 5% CO₂)
 3026 ATCC 33343. (NCTC 11402). A Brown strain TEX-KL. Postmortem lung specimen from atypical pneumonia. (Medium 6, 37C, 5% CO₂)
- Fluoribacter gormanii* (Morris et al.) Brown et al.
 Basonym: *Legionella gormanii*
 2700^T ATCC 33297. (NCTC 11401). Strain G Morris LS-13. **Type strain.** Soil. (Medium 6, 37C, 5% CO₂)
- Fusobacterium mortiferum* (Harris) Moore and Holdeman
 2573^T ATCC 25557. (VPI 4123A). **Type strain.** Maxillary abscess. (Medium 4 and/or 9, 37C, anaerobic)
- Fusobacterium necrophorum* subsp. *necrophorum* (Flugge) Moore and Holdeman
 1109 NCTC 10575. (DSM 20698). Type A. Bovine liver abscess. (Medium 4 and/or 9, 37C, anaerobic)
 3801 NZ isolate AB 89/0230. (CDC 900095, 90020301). Subspecies not determined. Blood. (Medium 4 and/or 9, 37C, anaerobic).
- Fusobacterium nucleatum* subsp. *nucleatum* Knorr
 2707^T ATCC 25586. (VPI 4355). **Type strain.** Media quality control strain (NCCLS M22-A2). Cervico-facial lesion. (Medium 4 and/or 9, 37C, anaerobic)
- Fusobacterium nucleatum* subsp. *polymorphum* Dzink et al.
 3368^T PHLS Centre, Porton Down strain BM 1342. (ATCC 10953, DSM 20482, NCTC 10562). **Type strain.** Inflamed gingiva. (Medium 4 and/or 9, 37C, anaerobic)
- Fusobacterium varium* (Eggerth and Gagnon) Moore and Holdeman
 2919^T ATCC 8501. (NCTC 10560). **Type strain.** Faeces. (Medium 4 and/or 9, 37C, anaerobic)
- Gardnerella vaginalis* (Gardner and Duke) Greenwood and Pickett
 Basonym: *Haemophilus vaginalis*
 810^T NCTC 10287. (ATCC 14018, DSM 4944). CD Dukes 594. **Type strain.** Vaginal secretions. (Medium 14, 37C, 5% CO₂)
 2303 CDC CV165. (Medium 14, 37C, 5% CO₂)
 2304 CDC CV3-7. (Medium 14, 37C, 5% CO₂)
 2305 CDC CV208. (Medium 14, 37C, 5% CO₂)
 2306^T CDC CV594. (ATCC 14018, DSM 4944, NCTC 10287). **Type strain.** Vagina. (Medium 14, 37C, 5% CO₂)
 3418 ATCC 49145. AmMS 117. Clinical isolate. Quality control of Microscan® panels. (Medium 14, 37C, 5% CO₂)
- Gemella haemolysans* (Thjotta and Boe) Berger
 3206^T ATCC 10379. (NCTC 5414). **Type strain.** (Medium 2, 37C, 5% CO₂)
- Geobacillus stearothermophilus* (Donk) Nazina et al.
 Basonym: *Bacillus stearothermophilus*
 3310 ATCC 7953. (DSM 5934, NCIB 8157, NCTC 10007). Strain NCA 1518, NR Smith T17. Steam sterilisation control. (Medium 1, 55C with moist atmosphere)
 3531 ATCC 10149. (DSM 6790). NR Smith T15 (*Bacillus calidolactis*). Assay of penicillins in milk. (Medium 1, 55C with moist atmosphere)
- Gluconobacter oxydans* subsp. *oxydans* (Henneberg) de Ley
 2574^T ATCC 19357. (DSM 3503, NCIB 9013). **Type strain.** Beer. Comment. Produces acid from maltose but not from sucrose. (Medium 1, 25C)
- Gordonia bronchialis* (Tsukamura) Stackebrandt et al.
 Basonym: *Rhodococcus bronchialis*
 3171 NZ isolate MY89/0484. (CDC 90/006563). Sternal wound pus. (Medium 2, 37C)
- Gordonia rubripertincta* (Hefferan) Stackebrandt et al.
 Basonym: *Rhodococcus rubropertinctus*
 3588^T DSM 43197. (ATCC 14352, NCIB 9664). **Type strain.** Soil. (Medium 15, 30C)

- Gordonia sputi* (Tsukamura) Stackebrandt et al. emend Riegel et al.
 Basonym: *Rhodococcus sputi*
 3594 DSM 44019. (ATCC 33609). (*Rhodococcus chubuensis*). Sputum.
 (Medium 1, 37C)
- Gordonia terrae* (Tsukamura) Stackebrandt et al.
 Basonym: *Rhodococcus terrae*
 3590^T DSM 43249. (ATCC 25594, NCTC 10669). **Type strain**. Soil. (Medium 15, 37C)
- Haemophilus actinomycetemcomitans* see *Actinobacillus actinomycetemcomitans*
- Haemophilus aphrophilus* Khairat
 1213 NCTC 5886. (ATCC 19415). Fatal endocarditis. (Medium 3, 37C, 5% CO₂)
- Haemophilus ducreyi* (Neveu-Lamaire) Bergey et al.
 3197^T ATCC 33940. (CIP 542, DSM 8925, NCTC 10945). **Type strain**. (Medium 16, 30C, 10% CO₂ or anaerobic jar no catalyst)
- Haemophilus haemoglobinophilus* (Lehmann and Newmann) Murray
 2524^T ATCC 19416. (NCTC 1659). **Type strain**. Production of restriction enzymes. Prepuce of dog.
 (Medium 3, 37C, 5% CO₂)
- Haemophilus haemolyticus* Bergey et al.
 2308^T NCTC 10659. (ATCC 33390). **Type strain**. Sputum. (Medium 3, 37C, 5% CO₂)
- Haemophilus influenzae* (Lehmann and Newmann) Winslow et al.
 481 NCTC 4560. (ATCC 19418). Biotype III. Reference strain. Noncapsulated.
 (Medium 3, 37C, 5% CO₂)
 696 NCTC 8465. Pittman type a. Biotype I. Respiratory infection. (Medium 3, 37C, 5% CO₂)
 811 NCTC 7279. Pittman type b. Biotype I. Reference strain. Meningitis.
 (Medium 3, 37C, 5% CO₂)
 812 NCTC 8469. (ATCC 9007). Pittman type c. Biotype II. Reference strain. Sputum of patient
 with respiratory infection. (Medium 3, 37C, 5% CO₂)
 813 NCTC 8470. (ATCC 9332). Pittman type d. Biotype IV. Reference strain. Throat.
 (Medium 3, 37C, 5% CO₂)
 814 NCTC 7918. Pittman type f. Biotype II. Pus from mastoid. (Medium 3, 37C, 5% CO₂)
 1108 NCTC 10479. Pittman type e. Biotype IV. Reference strain. (Medium 3, 37C, 5% CO₂)
 1190 CDC SMU-4. Type a. Preparation of diagnostic antiserum. (Medium 3, 37C, 5% CO₂)
 1191 CDC GB-3291. Type b. Preparation of diagnostic antiserum. (Medium 3, 37C, 5% CO₂)
 1192 CDC SM-72. Type c. Preparation of diagnostic antiserum. (Medium 3, 37C, 5% CO₂)
 1193 CDC SM-6. Type d. Preparation of diagnostic antiserum. (Medium 3, 37C, 5% CO₂)
 1194 CDC SM-7. Type e. Preparation of diagnostic antiserum. (Medium 3, 37C, 5% CO₂)
 1195 CDC SM-8. Type f. Preparation of diagnostic antiserum. (Medium 3, 37C, 5% CO₂)
 1196 CDC 74-64148. Ampicillin resistant MIC (mg/L) 8.0. Type b. Beta-lactamase positive.
 (Medium 3, 37C, 5% CO₂)
 1197 CDC 73-340. Ampicillin resistant MIC (mg/L) 16.0. Beta-lactamase positive.
 (Medium 3, 37C, 5% CO₂)
 2526 ATCC 9833. (DSM 10000, NCTC 8473) Production of restriction enzymes. Biotype I.
 Reference strain. Blood and spinal fluid. (Medium 3, 37C, 5% CO₂)
 2709 CDC 83-063137. Chloramphenicol and tetracycline resistant. Beta-lactamase positive.
 (Medium 3, 37C, 5% CO₂)
 2978 NCTC 11931. Antimicrobial susceptibility testing. J Clin Path 1986; **39**: 1006-12.
 (Medium 3, 37C, 5% CO₂)
 3009 Strain 03635 M Grattan, Papua New Guinea. (ATCC 43041, CCUG 16552, NHI AS82/2670).
 Biotype VII. J Clin Microbiol 1983; **18**: 1015-16. Child's nasal secretions.
 (Medium 3, 37C, 5% CO₂)
 3017 NZ isolate NHI 78/1592. Ampicillin resistant, MIC (mg/L) 16, beta-lactamase negative.
 Untypable. Antimicrob Agents Chemother 1984; **26**: 235-44. (Medium 3, 37C, 5% CO₂)
 Sputum. (Medium 3, 37C, 5% CO₂)
 3018 NZ isolate NHI AS80/1107. Ampicillin resistant, MIC (mg/L) 64, beta-lactamase negative.
 Untypable. Antimicrob Agents Chemother 1984; **26**: 235-44. Sputum.
 (Medium 3, 37C, 5% CO₂)

- 3184 ATCC 49247. (DSM 9999, NCTC 12699). GV Doern TD-4. Reference strain for antimicrobial disk susceptibility tests (NCCLS M2-A6) and dilution antimicrobial susceptibility tests (NCCLS M7-A4). Sputum. Note: The NCCLS recommend using this strain in conjunction with *H. influenzae* NZRM 3245 (ATCC 10211) and NZRM 3315 (ATCC 49766) for susceptibility testing. (Medium 3, 37C, 5% CO₂)
- 3245 ATCC 10211. Type b. Media quality control strain (NCCLS M22-A2). Note: The NCCLS recommend using this strain in conjunction with *H. influenzae* NZRM 3184 (ATCC 49247) and NZRM 3315 (ATCC 49766) for susceptibility testing. (Medium 3, 37C, 5% CO₂)
- 3300 PW Anderson, University of Rochester, Medical Center, New York. (ATCC 51654). Strain Eagan. Type b. (Medium 3, 37C, 5% CO₂)
- 3315 ATCC 49766. Reference strain for antimicrobial disk susceptibility testing (NCCLS M2-A6) and dilution antimicrobial susceptibility testing (NCCLS M7-A2). Lung abscess, human. Note: The NCCLS recommend using this strain in conjunction with *H. influenzae* NZRM 3184 (ATCC 49247) and NZRM 3245 (ATCC 10211) for susceptibility testing. (Medium 3, 37C, 5% CO₂)
- 3416 ATCC 49144. AmMS 120. Beta-lactamase positive. Quality control of Microscan® panels. Clinical isolate. (Medium 3, 37C, 5% CO₂)
- 4059 NCTC 11315. Beta-lactamase producer. Nitrocefin test positive control. Sputum. Received from Prince of Wales Hospital, Randwick, NSW, Australia. (Medium 3, 37C, 5% CO₂)
- 4074 ATCC 9006. Strain AMC 36-A-3. Type a. Quality control strain for bioMerieux Vitek and IDS products. Throat of young adult with respiratory infection. (Medium 3, 37C, 5% CO₂)

Also held in the Collection are *Haemophilus influenzae* strains for plasmid studies.

Haemophilus parahaemolyticus Pittman

- 839 CDC KC421. (Medium 3, 37C, 5% CO₂)
- 2527^T ATCC 10014. (NCTC 8479). **Type strain.** Production of restriction enzymes. Chronic pulmonary infection. (Medium 3, 37C, 5% CO₂)

Haemophilus parainfluenzae Rivers

- 3628^T DSM 8978. (ATCC 33392, NCTC 7857). **Type strain.** Septic finger. (Medium 3, 37C, 5% CO₂)

Haemophilus paraphrophilus Zinneman et al.

- 2309^T NCTC 10557. (ATCC 29241). **Type strain.** Paronychia. (Medium 3, 37C, 5% CO₂)
- 3417 ATCC 49146. AmMS 115. Quality control of Microscan® panels. Clinical isolate. (Medium 3, 37C, 5% CO₂)

Haemophilus parasuis Biberstein and White

- 2525^T ATCC 19417. (NCTC 4557). **Type strain.** No longer requires X factor for growth. Production of restriction enzymes. (Medium 3, 37C, 5% CO₂)

Haemophilus segnis Kilian

- 2374^T NCTC 10977. (ATCC 33393). **Type strain.** Dental plaque, Denmark. (Medium 3, 37C, 5% CO₂)

Hafnia alvei Moller

- 109 NZ isolate NHI 63/4800. (Medium 1, 37C)
- 860 CDC 5190-70. (Medium 1, 37C)

Helicobacter pylori (Marshall) Goodwin et al.

- Basonym: *Campylobacter pylori*
- 2925^T Strain Royal Perth Hospital 13487. (ATCC 43504, CCUG 17874, DSM 4867, NCTC 11637). from A Morris, Auckland, New Zealand, from G Francis, Perth, W. Australia. **Type strain.** Human gastric antrum, Australia. (Medium 3, 37C, microaerophilic or 5% CO₂). Supplied as slope culture.

Issatchenkia orientalis Kudriavtsev

- 3509 ATCC 6258. (ATCC 749, CBS 573, DSM 6128). Deposited as *Candida krusei*. **Type strain of** *Endomyces krusei*. Antifungal susceptibility testing. Clinical bronchomycosis. (Medium 5, 25C)

Janthinobacterium lividum De Ley et al.

- 2393^T NCIB 9130. (ATCC 12473, DSM 1522, NCIB 9130, NCTC 9796). **Type strain.**
Soil. (Medium 1, 37C)

Kingella denitrificans Snell and Lapage

- 2386 NZ isolate NHI SB80/0334. (CDC E8497). Group TM-1. Throat. (Medium 2, 37C, 5% CO₂)

Kingella indologenes see *Suttonella indologenes**Kingella kingae* (Henriksen and Bovre) Henriksen and Bovre

- 2010 CDC 5530. (ATCC 23332, NCTC 10746). Blood. (Medium 2, 37C)
3487 NZ isolate NHI 74/2257. (CDC D2360). Microbiol 1994; 140: 2867-91. Blood.
(Medium 2, 37C)

Klebsiella oxytoca (Flügge) Lautrop

- 2301 ATCC 13183. Pharyngeal tonsil. (Medium 1, 37C)
3400 ATCC 49131. AmMS 101. Quality control of Microscan® panels. Clinical isolate.
(Medium 1, 37C)

Klebsiella ozaenae see *Klebsiella pneumoniae* subsp. *ozaenae**Klebsiella pneumoniae* see *Klebsiella pneumoniae* subsp. *pneumoniae**Klebsiella pneumoniae* subsp. *ozaenae* (Abel) Orskov

- 779 NCTC 5051. (ATCC 11297). Type 5. (Medium 1, 37C)
782 Dr S M Bell, Sydney, Australia. Australian isolate 1. (Medium 1, 37C)
783 Dr S M Bell, Sydney, Australia. Australian isolate 2. (Medium 1, 37C)
2104^T Strain D5050 from Dr I Orskov, Copenhagen. (ATCC 11296, NCTC 5050). **Type strain.**
Type 4. Nose, Sumatra. (Medium 1, 37C)

Klebsiella pneumoniae subsp. *pneumoniae* (Schroeter) Trevisan

- 51 NCTC 5054. (ATCC 13886). *Klebsiella edwardsii* subsp. *edwardsii*. Type 1. Human
pneumonia. (Medium 1, 37C)
482^T NCTC 9633. (ATCC 13883, DSM 30104, NCIMB 13281). **Type strain.** Type 3. Assay of
antimicrobial agents in aqueous metal working fluids. Comment: KCN negative,
VP negative. (Medium 1, 37C)
744 NCTC 8172. (ATCC 13882, DSM 30102, NCIB 8267). *Klebsiella aerogenes*. Type 64. Water.
(Medium 1, 37C)
777 NCTC 5056. Type 3. From Dr S M Bell, Sydney, Australia. Pneumonia. (Medium 1, 37C)
778 NCTC 5055. Type 2. *Klebsiella aerogenes*. From Dr S M Bell, Sydney, Australia. Human,
Java. (Medium 1, 37C)
780 NCTC 9496. (ATCC 13887, DSM 9377). *Klebsiella edwardsii* subsp. *atlantae*. Type 1.
Bronchial washings. (Medium 1, 37C)
1030 NCTC 10896. Antibiotic assay. *Klebsiella edwardsii* subsp. *atlantae*. Urine. (Medium 1, 37C)
1208 NCTC 7427. (ATCC 10031, DSM 681, NCIB 9111). FDA strain PCI 602. Antibiotic assays,
susceptibility disc testing. *Klebsiella aerogenes*. Comment: Malonate negative; no gas from
cellobiose, glucose, glycerol, inositol and mannitol. (Medium 1, 37C)
1257 NCTC 7242. Assay of streptomycin. Type 2. *Klebsiella edwardsii* subsp. *edwardsii*.
(Medium 1, 37C)
2719 ATCC 4352. (DSM 789, NCIB 10341). Assay of bacteriostatic activity of laundry additives.
Simmons citrate and malonate negative. Cow's milk. (Medium 1, 37C)
3379 Strain Kp 956 from University of W. Australia, Nedlands. Produces extended broad-
spectrum beta-lactamase SHV-5. (Medium 1, 37C)
3407 ATCC 49472. AmMS 246. Quality control of Microscan® panels. Clinical isolate.
(Medium 1, 37C)
3681 ATCC 700603. (CCUG 45421, LMG 20218) Control for extended-spectrum beta-lactamase
(ESBL) production. Urine. (Medium 1, 37C).
4075 ATCC 33495. Strain C122. Quality control strain for BBL products. 2 colony types. Human
urinary tract. (Medium 1, 37C).

Klebsiella pneumoniae subsp. *rhinoscleromatis* (Trevisan) Orskov
781^T NCTC 5046. (ATCC 13884). **Type strain**. Capsular serotype 3. From Dr S M Bell, Sydney, Australia. Nose. (Medium 1, 37C)

Klebsiella rhinoscleromatis see *Klebsiella pneumoniae* subsp. *rhinoscleromatis*

Klebsiella sp.
822 G Woods, Southland Hospital, NZ. 1973. Resistant to all antibiotics except gentamycin and kanamycin. (Medium 1, 37C)

Klebsiella terrigena see *Raoultella terrigena*

Also held in the Collection are a set of *Klebsiella* sp. bacteriocin (klebecin) typing strains and a set of *Klebsiella* capsule serotyping strains.

Kluyvera ascorbata Farmer et al.
2626^T ATCC 33433. (CDC 0648-74, DSM 4611). **Type strain**. Sputum. (Medium 1, 37C)

Kluyvera cryocrescens Farmer et al.
2627^T ATCC 33435. (CDC 2065-78, DSM 4588). **Type strain**. Human. (Medium 1, 37C)

Kocuria kristinae (Kloos et al.) Stackebrandt et al.
Basonym: *Micrococcus kristinae*
2206^T ATCC 27570. (DSM 20032, NCTC 11038). **Type strain**. Human skin. (Medium 1, 30C)

Kocuria rhizophila Kovacs et al.
1211 ATCC 9341a. (DSM 46222, NCIB 9660). FDA strain PCI 1001/D. (*Sarcina lutea*). Until 2003 preserved as *Micrococcus luteus*. Dihydrostreptomycin and streptomycin resistant. (Medium 1, 30C)
1216 ATCC 9341. (DSM 348, NCIMB 8553, NCTC 8340). FDA strain PCI 1001 (*Sarcina lutea*). Sterility testing. Antibiotic assay and susceptibility disc testing. Soil. (Medium 1, 37C)
2747 ATCC 15957. (NCIMB 12874). FDA (PCI) 1001/E. Until 2003 preserved as *Micrococcus luteus*. Erythromycin resistant. Used for the detection of small amounts of penicillin in erythromycin. (Medium 1, 37C)

Kocuria rosea (Flügge) Stackebrandt et al.
Basonym: *Micrococcus roseus*
2563^T ATCC 186. (DSM 20447, NCIB 11696, NCTC 7523). **Type strain**. (Medium 1, 30C)

Kocuria varians (Migula) Stackebrandt et al.
Basonym: *Micrococcus varians*
2564^T ATCC 15306. (DSM 20033, NCIB 11697, NCTC 7564). **Type strain**. Milk. (Medium 1, 30C)

Kytococcus sedentarius (Zobell and Upham) Stackebrandt et al.
Basonym: *Micrococcus sedentarius*
2207 ATCC 27573. Characterisation. Resistant to penicillin and methicillin. Human skin. (Medium 1, 30C)

Lactobacillus acidophilus (Moro) Hansen and Møcquot
52 NCTC 1899. (ATCC 11975, NCDO 2, NCIB 1899). (Medium 17 or 18, 37C, anaerobic)
3494^T ATCC 4356. (DSM 20079, IFO 13951, NCIB 8690). **Type strain**. Human. (Medium 2, 37C, anaerobic)

Lactobacillus brevis (Orla-Jensen) Bergey et al.
3339^T NZDRI 20070. (ATCC 14869, DSM 20054, NCIMB 11973). **Type strain**. Human faeces. (Medium 7, 37C, 5% CO₂)

Lactobacillus bulgaricus see *Lactobacillus delbrueckii* subsp. *bulgaricus*

Lactobacillus casei subsp. *rhamnosus* see *Lactobacillus rhamnosus*

Lactobacillus delbrueckii subsp. *bulgaricus* (Orla-Jensen) Weiss et al.

Basonym: *Lactobacillus bulgaricus*

1031^T NCDO 1489. (ATCC 11842, DSM 20081, NCIMB 11778, NCTC 12712). **Type strain.** Bulgarian yoghurt. (Medium 17 or 7, 37C, anaerobic)

Lactobacillus delbrueckii subsp. *delbrueckii* (Leichmann) Weiss et al.

2994^T NCIB 8130. (ATCC 9649, DSM 20074, NCDO 213, USDA 730). **Type strain.** Strain Calvert. Produces D-lactic acid from corn sugar and molasses. Assay of alanine and pyridoxal. Sour grain mash. (Medium 17 or 7, 37C, anaerobic)

Lactobacillus delbrueckii subsp. *lactis* (Orla-Jensen) Weiss et al.

Basonym: *Lactobacillus lactis*

153 ATCC 7830. (DSM 20355, NCDO 302, NCIB 8118). (*Lactobacillus leichmannii*). Assay of vitamin B12. (Medium 17 or 7, 37C, anaerobic)

Lactobacillus fermentum Beijerinck

3314 NZDRI 20050. (ATCC 9338, DSM 20391, NCDO 215, NCIB 6991 and 8028). (Medium 7, 37C, 5% CO₂)

Lactobacillus helveticus (Orla-Jensen) Bergey et al.

991 NCDO 1846. (Medium 7, 37C)

Lactobacillus lactis see *Lactobacillus delbrueckii* subsp. *lactis*

Lactobacillus leichmannii see *Lactobacillus delbrueckii* subsp. *lactis* NZRM 153

Lactobacillus plantarum (Orla-Jensen) Bergey et al.

1100 ATCC 8014. (DSM 20205, IFO 3070, NCDO 82, NCIB 6376, 8014, 8030). (*Lactobacillus arabinosus*). Assay of nicotinic and pantothenic acids. (Medium 7 or 17, 37C)

Lactobacillus rhamnosus (Hansen) Collins et al.

Basonym: *Lactobacillus casei* subsp. *rhamnosus*

299^T ATCC 7469. (DSM 20021, NCDO 243, NCIB 6375, 8010). **Type strain.** Assay of pantothenic, nicotinic, folic and glutamic acids, pyridoxal and arginine; assay of riboflavin; determination of streptogenin factor; enzymatic determination of optically active isomers of lactic acid. (Medium 7, 37C, 5% CO₂)

1042 NCIB 10463. (ATCC 27773). Serum plate assay. Assay of folate. (Chloramphenicol resistant). (Medium 7, 37C, 5% CO₂)

Lactobacillus viridescens see *Weissella viridescens*

Lactococcus lactis subsp. *lactis* (Lister) Schleifer et al.

Basonym: *Streptococcus lactis*

2274^T NCTC 6681. (ATCC 19435, DSM 20481, NCDO 604, NCIB 6681). Strain OJ. **Type strain.** Serological group N. (Medium 2, 37C)

Leclercia adecarboxylata (Leclerc) Tamura et al.

Basonym: *Escherichia adecarboxylata*

3629^T DSM 5077. (ATCC 23216, NCIMB 13153). **Type strain.** Drinking water. (Medium 1, 37C)

3695 NZ isolate ER 99/2982. Water. (Medium 1, 37C).

Legionella anisa Gorman et al.

2967^T CDC. (ATCC 35292, NCTC 11974). G W Gorman strain WA-316-C3. **Type strain.** Serogroup 1. Tap water. (Medium 6, 37C, 5% CO₂)

Legionella birminghamensis Wilkinson et al.

3032^T ATCC 43702. (NCTC 12437). Strain 1407-AL-H. **Type strain.** Lung biopsy. (Medium 6, 37C, 5% CO₂)

Legionella bozemanii see *Fluoribacter bozemanii*

Legionella cherrii Brenner et al.

- 2960^T ATCC 35252. (NCTC 11976). W F Bibb strain ORW. **Type strain**. Serogroup 1. Thermally altered water. (Medium 6, 37C, 5% CO₂)

Legionella dumoffii see *Fluoribacter dumoffii**Legionella erythra* Brenner et al.

- 2976^T CDC. (ATCC 35303, NCTC 11977). Strain SE-32A-C8. **Type strain**. Cooling tower water. Serogroup 1. (Medium 6, 37C, 5% CO₂)

Legionella feeleeii Herwaldt et al.

- 2837^T ATCC 35072. (NCTC 12022). Strain G W Gorman WO-44C. **Type strain**. Grinding machine coolant. (Medium 6, 37C, 5% CO₂)
 2929 ATCC 35849. (NCTC 11978). Serogroup 2. Human lung tissue. (Medium 6, 37C, 5% CO₂)

Legionella gormanii see *Fluoribacter gormanii**Legionella hackeliae* Brenner et al.

- 2971^T CDC. (ATCC 35250, NCTC 11979). Strain Lansing 2. **Type strain**. Serogroup 1. Bronchial biopsy. (Medium 6, 37C, 5% CO₂)
 2972 CDC. (ATCC 35999, NCTC 11980). Strain 798-PA-H. Serogroup 2. Human lung aspirate. (Medium 6, 37C, 5% CO₂)

Legionella israelensis Bercovier et al.

- 3028^T ATCC 43119. (NCTC 12010). D J Brenner strain Bercovier 4. **Type strain**. Oxidation pond, Gaash, Israel. (Medium 6, 37C, 5% CO₂)

Legionella jamestowniensis Brenner et al.

- 2954^T ATCC 35298. (NCTC 11981). G W Gorman strain JA-26-G1-E2. **Type strain**. Wet soil. (Medium 6, 37C, 5% CO₂)

Legionella jordanis Cherry et al.

- 2703^T ATCC 33623. (NCTC 11533). Strain G W Gorman BL-540. **Type strain**. Jordan River, Bloomington, Indiana. (Medium 6, 37C, 5% CO₂)

Legionella longbeachae McKinney et al.

- 2699 ATCC 33484. (NCTC 11530). W Bibb strain Tucker 1. Serogroup 2. Lung. (Medium 6, 37C, 5% CO₂)
 2704^T ATCC 33462. (DSM 10572, NCTC 11477). R McKinney strain Long Beach 4. Serogroup 1. **Type strain**. Lung. (Medium 6, 37C, 5% CO₂)
 3288 Institute of Medical and Veterinary Science, Adelaide. Serogroup 1. Human isolate. (Medium 6, 37C, 5% CO₂)
 3443 NZ isolate LA93/171. Serogroup 1. Tracheal aspirate of patient with fatal atypical pneumonia. Christchurch. (Medium 6, 37C, 5% CO₂)
 3444 NZ isolate LA93/183. Serogroup 1. Garden soil of fatal atypical pneumonia patient. Christchurch. (Medium 6, 37C, 5% CO₂)
 3445 NZ isolate LA93/184. Serogroup 1. Garden soil of fatal atypical pneumonia patient. Christchurch. (Medium 6, 37C, 5% CO₂)
 3446 NZ isolate LA93/185. Serogroup 1. Orchid potting mix used by fatal atypical pneumonia patient. Christchurch. (Medium 6, 37C, 5% CO₂)
 3447 NZ isolate LA93/187. Serogroup 1. Tracheal aspirate of patient with atypical pneumonia. Christchurch. (Medium 6, 37C, 5% CO₂)
 3448 NZ isolate LA94/12. Serogroup 1. Sputum of patient with pneumonia. Christchurch. (Medium 6, 37C, 5% CO₂)
 3451 NZ isolate LA94/16. Serogroup 1. Sputum of patient with atypical pneumonia. Christchurch. (Medium 6, 37C, 5% CO₂)

Legionella macearchernii see *Tatlockia macearchernii**Legionella micdadei* see *Tatlockia micdadei*

Legionella oakridgensis Orrison et al.

- 2835^T ATCC 33761. (NCTC 11531). W Cherry strain Oak Ridge 10(OR-10). **Type strain**. Industrial cooling tower water. (Medium 6, 37C, 5% CO₂)

Legionella parisiensis Brenner et al.

- 2969^T CDC. (ATCC 35299, NCTC 11983). Strain PF-209C-C2. Serogroup 1. **Type strain**. Water in cooling tower, Paris, France. (Medium 6, 37C, 5% CO₂)

Legionella pneumophila Brenner et al.

- 2838 ATCC 33823. (NCTC 11984). W Bibb strain Chicago-8. Serogroup 7. Shower head. (Medium 6, 37C, 5% CO₂)
- 3001 CDC. Strain Portland 1. Serogroup 4. (Medium 6, 37C, 5% CO₂)
- 3025 ATCC 33153. (NCTC 11286). R E Weaver strain Knoxville-1. Serogroup 1. Human lung. (Medium 6, 37C, 5% CO₂)
- 3323 Legionella Laboratory CDC, USA. Serogroup 1. (Medium 6, 37C, 5% CO₂)
- 3324 Legionella Laboratory CDC, USA. Serogroup 1. (Medium 6, 37C, 5% CO₂)
- 3325 Legionella Laboratory CDC, USA. Serogroup 1. (Medium 6, 37C, 5% CO₂)
- 3326 Legionella Laboratory CDC, USA. Serogroup 1. (Medium 6, 37C, 5% CO₂)
- 3327 Legionella Laboratory CDC, USA. Serogroup 1. (Medium 6, 37C, 5% CO₂)

Legionella pneumophila subsp. *fraseri* Brenner et al.

- 2008^T CDC BC1639. (ATCC 33156, DSM 7514, NCTC 11233). R Weaver strain Los Angeles 1. **Type strain**. Serogroup 4. Lung. (Medium 6, 37C, 5% CO₂)
- 2502 ATCC 33216. (NCTC 11405). Strain Dallas-1E. Serogroup 5. Cooling tower. (Medium 6, 37C, 5% CO₂)
- 2754^T ATCC 33156. (DSM 7514, NCTC 11233). R Weaver strain Los Angeles 1. **Type strain**. Serogroup 4. Lung. (Medium 6, 37C, 5% CO₂)
- 3528 ATCC 35251. WF Bibb strain Lansing 3. Serogroup 15. Human lung tissue. (Medium 6, 37C, 5% CO₂)

Legionella pneumophila subsp. *pneumophila* Brenner et al.

- 2245^T CDC BC-1636. (ATCC 33152, DSM 7513, NCTC 11192). Strain Philadelphia-1. **Type strain**. Serogroup 1. Media quality control strain (NCCLS M22-A2). Lung. (Medium 6, 37C, 5% CO₂)
- 2263 CDC BC-1638. (ATCC 33155, NCTC 11232). Strain Bloomington-2. Serogroup 3. Creek water. (Medium 6, 37C, 5% CO₂)
- 2392 CDC BC-1637. (ATCC 33154, NCTC 11230). Strain Togus-1. Serogroup 2. Lung. (Medium 6, 37C, 5% CO₂)
- 2501 ATCC 33215. (NCTC 11406). Strain Chicago-2. Serogroup 6. Lung biopsy. (Medium 6, 37C, 5% CO₂)
- 2839 ATCC 35096. (NCTC 11985). M L Bissett strain Concord 3. Serogroup 8. Lung. (Medium 6, 37C, 5% CO₂)
- 2963 CDC. (ATCC 35289, NCTC 11986). Strain IN-23-G1-C2. Serogroup 9. Tap water. (Medium 6, 37C, 5% CO₂)
- 2964 CDC. (ATCC 43283, NCTC 12000). Strain H W Wilkinson Leiden 1. Serogroup 10. Respiratory tract secretions. (Medium 6, 37C, 5% CO₂)
- 2965 CDC. (ATCC 43130). Strain 797-PA-H. Serogroup 11. Human endotracheal tube. (Medium 6, 37C, 5% CO₂)
- 3029 ATCC 43290. Strain W L Thacker 570-CO-H. Serogroup 12. Human lung. (Medium 6, 37C, 5% CO₂)
- 3030 ATCC 43736. D Lindquist 82A3105. Serogroup 13. Lung aspirate. (Medium 6, 37C, 5% CO₂)
- 3031 ATCC 43703. (NCTC 12174). R F Benson 1169-MN-H. Serogroup 14. Bronchial aspirate. (Medium 6, 37C, 5% CO₂)
- 3515 NCTC 11404. (ATCC 43111). Strain Bellingham-1. Serogroup 1. Pleural fluid. (Medium 6, 37C, 5% CO₂)

Legionella rubrilucens Brenner et al.

- 2955^T ATCC 35304. (DSM 11884, NCTC 11987). Strain WA-270A-C2. **Type strain**. Tap water. (Medium 6, 37C, 5% CO₂)

Legionella sainthelensi Campbell et al.

2836^T ATCC 35248. (NCTC 11988). W F Bibb strain MSH-4. **Type strain**. Spring water. (Medium 6, 37C, 5% CO₂)

Legionella spiritensis Brenner et al.

2970^T CDC. (ATCC 35249, NCTC 11990). Strain Mt Saint Helens 9. Serogroup 1. **Type strain**. Spirit Lake, Mt St Helens. (Medium 6, 37C, 5% CO₂)

Legionella wadsworthii Edelstein et al.

2705^T ATCC 33877. (NCTC 11532). P Edelstein strain Wadsworth 81-716A. **Type strain**. Sputum. (Medium 6, 37C, 5% CO₂)

Leifsonia aquatica (ex Leifson) Evtushenko et al.

Basonym: "*Corynebacterium aquaticum*"

1118^T NCIB 9460. (ATCC 14665, DSM 20146). **Type strain**. Distilled water. (Medium 1, 37C)

Leptospira species - in addition to the species listed below others are held, please inquire.

Leptospira sp. serovar *australis*

3259 Strain Ballico, from Laboratory of Microbiology and Pathology, Department of Health, Brisbane, Australia. (Medium 19, 30C). Supplied as cell suspension at room temperature.

Leptospira sp. serovar *ballum*

3237 Strain Mus 127, from Laboratory of Microbiology and Pathology, Department of Health, Brisbane, Australia. (Medium 19, 30C). Supplied as cell suspension at room temperature.

Leptospira sp. serovar *bratislava*

3239 Strain Bratislava, from Laboratory of Microbiology and Pathology, Department of Health, Brisbane, Australia. (Medium 19, 30C). Supplied as cell suspension at room temperature.

Leptospira sp. serovar *canicola*

3238 Strain Hond Utrecht IV, from Laboratory of Microbiology and Pathology, Department of Health, Brisbane, Australia. (Medium 19, 30C). Supplied as cell suspension at room temperature.

Leptospira sp. serovar *copenhageni*

3235 Strain M 20, from Laboratory of Microbiology and Pathology, Department of Health, Brisbane, Australia. (Medium 19, 30C). Supplied as cell suspension at room temperature.

Leptospira sp. serovar *hardjo*

3234 Strain Hardjoprajitno, from Laboratory of Microbiology and Pathology, Department of Health, Brisbane, Australia. (Medium 19, 30C). Supplied as cell suspension at room temperature.

Leptospira sp. serovar *patoc*

3252 Strain Patoc 1, from Laboratory of Microbiology and Pathology, Department of Health, Brisbane, Australia. (Medium 19, 30C). Supplied as cell suspension at room temperature.

Leptospira sp. serovar *pomona*

3240 Strain Pomona, from Laboratory of Microbiology and Pathology, Department of Health, Brisbane, Australia. (Medium 19, 30C). Supplied as cell suspension at room temperature.

Leptospira sp. serovar *tarassovi*

3236 Strain Perepelicin, from Laboratory of Microbiology and Pathology, Department of Health, Brisbane, Australia. (Medium 19, 30C). Supplied as cell suspension at room temperature.

Leuconostoc mesenteroides subsp. *mesenteroides* (Tsenkovskii) van Tieghem

3199 NZ isolate NHI SB 89/105. (CDC 1564). Blood. (Medium 2, 30C)

3620 DSM 20240. (ATCC 10830a, NCIMB 8710, NCTC 10817). Strain NRRL B-512F. Produces dextran. (Medium 2, 30C)

Levinea amalonatica see *Citrobacter amalonaticus*

Listeria grayi Errebo Larsen and Seeliger

- 1088^T CDC KC697. (ATCC 19120, DSM 20601, NCTC 10815). **Type strain.** Seeliger Li 2080. Chinchilla faeces. (Medium 1, 37C)
- 2593 CDC KC25. (Medium 1, 37C)
- 3530 ATCC 25401. (CIP 76124, DSM 20596, NCTC 10812). H J Welshimer F-9. Type strain of *Listeria murrayi*. Taxonomy. Cornstalks and leaves. (Medium 1, 37C)

Listeria innocua Seeliger

- 2947 NZ isolate NHI SB85/0447, referred from Ruakura Agricultural Research Centre. Confirmed by Dr J Rocourt, Pasteur Institute. Goat foetus brain. (Medium 1, 37C)
- 3024^T NCTC 11288. (ATCC 33090, DSM 20649). Strain 58/1971. **Type strain.** Brain of cow. (Medium 1, 37C)

Listeria ivanovii subsp. *ivanovii* Seeliger et al.

- 797 NZ isolate, RARC. Serotype 5. Med Lab Technol 1973; **30**: 51-6. Aborted animal foetus. (Medium 2, 37C)
- 3500^T NCTC 11846. (ATCC 19119, DSM 20750). Strain SV5, SLCC 2379. **Type strain.** Sheep. (Medium 2, 37C)

Listeria monocytogenes (Murray et al.) Pirie

- 44 NCTC 7973. (ATCC 35152). Serotype 1a. Spontaneously produces non-haemolytic variants. Guinea-pig mesenteric lymph node. (Medium 1, 37C)
- 801 NZ isolate NHI 73/1887. Serotype 4b. Neonate with aspiration pneumonia. BMJ 1971; **3**: 747-51. (Medium 1, 37C)
- 1966 NZ isolate NHI 77/2986. (CDC 78045145/L30). Serotype 1b. Foetus, lung tissue. (Medium 1, 37C)
- 1986 NZ isolate NHI 75/2764. (CDC 76047009/L5). Serotype 7. Blood. (Medium 1, 37C)
- 1987 NZ isolate NHI 76/2697. (CDC 77030989/L208). referred from Ruakura Agricultural Research Centre. Serotype 4d. Deer placenta. (Medium 1, 37C)
- 2024 NZ isolate NHI 78/1264. (CDC 79001198/L181). Serotype 2. Cerebrospinal fluid. (Medium 1, 37C)
- 2591 CDC KC35. (ATCC 35152, NCTC 7973). Serotype 1a. Spontaneously produces non-haemolytic variants. Guinea-pig mesenteric lymph node. Received 1981 for preparation of antisera. (Medium 1, 37C)
- 2592 CDC KC37. (ATCC 19112, NCTC 5348). Serotype 2. Cerebrospinal fluid. Received 1981 for preparation of antisera. (Medium 1, 37C)
- 2594 CDC KC36. (ATCC 19113, NCTC 5105). Serotype 3a. Human. Received 1981 for preparation of antisera. (Medium 1, 37C)
- 2595 CDC KC17. (ATCC 19114, NCTC 5214). Serotype 4a. Brain, sheep circling disease, New Zealand, in 1931. Received 1981 for preparation of antisera. (Medium 1, 37C)
- 2596 CDC KC31. (ATCC 19116). Strain 10. Donker-Voet 10. Serotype 4c. Chicken. Received 1981 for preparation of antisera. (Medium 1, 37C)
- 2597 CDC KC19. (ATCC 19117). Strain 21. Donker-Voet 21. Serotype 4d. Sheep. Received 1981 for preparation of antisera. (Medium 1, 37C)
- 2598 CDC KC18. Strain F4. Serotype 4b. Received 1981 for preparation of antisera. (Medium 1, 37C)
- 2726 ATCC 19112. (NCTC 5348). Serotype 2. Cerebrospinal fluid. (Medium 1, 37C)
- 3312 ATCC 7646. Strain MJ Pelczar Jr 10957. Sheep. (Medium 1, 37C)
- 3340 FDA, Bothell, Washington. Strain Murray B. Serotype 4. (Medium 1, 37C)
- 3370 FDA, Bothell, Washington. Strain Scott A. Serotype 4b6. Clinical isolate. (Medium 1, 37C)
- 3371 FDA, Bothell, Washington. Strain V7. Serotype 1a1. Milk. (Medium 1, 37C)
- 3384 LCDC 81-861. Serotype 4. Coleslaw, Halifax, Nova Scotia. (Medium 1, 37C)
- 3385 LCDC 81-510. Serotype 4. Umbilical swab, Halifax outbreak case. (Medium 1, 37C)
- 3386 LCDC 81-511. Serotype 4. Vagina, mother of infected baby (NZRM 3385), Halifax outbreak. (Medium 1, 37C)
- 3387 LCDC 81-1087. Serotype 4. Cucumber from fridge, Halifax outbreak. (Medium 1, 37C)
- 3449 NZ isolate SB92/870. (FH L6652a, CLIP 36389). Referred from Auckland Public Health Laboratory. Serotype 1/2a, phage type 1967, 881. Smoked mussels. (Medium 1, 37C)
- 3450 NZ isolate SB92/844. (FH L6653b, CLIP 39392, 36387). Serotype 1/2a, phage type 1967, 881. Blood, perinatal case, associated with consumption of smoked mussels. (Medium 1, 37C)
- 4088 CDC strain H2446. PulseNet Universal size standard. (Medium 1, 37C).

Listeria murrayi see *Listeria grayi* NZRM 3530

Listeria seeligeri Rocourt and Grimont

- 3287^T NCTC 11856. (ATCC 35967, CIP 100100, DSM 20751). **Type strain**. Serotype 1/2b. Soil. (Medium 1, 37C)
 3322 NZ isolate SB90/703. Referred by Public Health Laboratory, Wellington. Live mussels. (Medium 1, 37C)

Listeria welshimerii Rocourt and Grimont

- 3286^T NCTC 11857. (ATCC 35897, DSM 20650, CIP 8149). **Type strain**. Decaying plant material. (Medium 1, 37C)

Listonella anguillarum (Bergeman) MacDonell and Colwell

- Basonym: *Vibrio anguillarum*
 1222 NZ isolate NHI 76/3077. From Fisheries Research, Wellington. Liver of eels, Lake Ellesmere. (Medium 1, 25C)
 2028^T ATCC 19264. (CDC 9063-79, NCIMB 6, NCTC 12159). **Type strain**. Ulcerous lesion in cod. (Medium 1, 25C)

Listonella damsela see *Photobacterium damsela* subsp. *damsela*

Malassezia furfur (Robin) Baillon

- 3493 NZ isolate MY93/031. Fingernail. (Medium 5 with sterile olive oil overlay, 37C)

Mannheimia haemolytica (Newsome and Cross) Angen et al.

- Basonym: *Pasteurella haemolytica*
 863 NCTC 10609. (ATCC 29696). Serotype I. Biotype A. Nasopharyngeal mucus of sheep. (Medium 2, 37C)

Methylobacterium mesophilicum (Austin and Goodfellow) Green and Bousefield.

- Basonym: *Pseudomonas mesophila*
 1087 CDC B8949. (Medium 1, 25C)

Microbacterium lacticum Orla-Jensen

- 1154^T NCIB 8540. (ATCC 8180, DSM 20427, NCDO 747). **Type strain**. (Medium 1, 30C)

Micrococcus kristinae see *Kocuria kristinae*

Micrococcus luteus (Schroeter) Cohn emend. Wieser et al.

- 296 NCTC 7743. (ATCC 10240, DSM 1790, NCIB 8166, PCI 1216). Assay of bacitracin. Commercial Solvents Corporation strain 103.21. *Micrococcus flavus*. (Medium 1, 37C)
 799^T NCTC 2665. (ATCC 4698, CIP A270, DSM 20030, NCIB 9278). **Type strain**. Holotype of *Micrococcus lysodeikticus*. Lysosyme sensitive, testing of lysosyme. Phage host. (Medium 1, 37C)
 1205 NCIB 10418. (ATCC 14452, DSM 2786). Cylinder plate assay of amphomycin. Neomycin resistant. Assay of bacitracin in presence of neomycin. (Medium 1, 37C)
 2214 ATCC 7468. (DSM 1605, NCIMB 8942, WHO 1). FDA strain PCI 1009. Cylinder plate assay of bacitracin and chloramphenicol. (*Sarcina subflava*). (Medium 1, 37C)
 3403 ATCC 49732. AmMS 533. Quality control of Microscan® panels. Clinical isolate. (Medium 1, 30C)

Micrococcus luteus NZRM 1211, NZRM 1216 and NZRM 2747 see *Kocuria rhizophila*

Micrococcus lylae Kloos et al. emend. Wieser et al.

- 2208^T ATCC 27566. (DSM 20315, NCTC 11037). **Type strain**. Human skin. (Medium 1, 30C)

Micrococcus roseus see *Kocuria rosea*

Micrococcus sedentarius see *Kytococcus sedentarius*

Micrococcus varians see *Kocuria varians*

Micropolyspora faeni see *Saccharopolyspora rectivirgula*

Micropolyspora rectivirgula see *Saccharopolyspora rectivirgula*

Microsporium gypseum (Bodin) Guartet and Grigorakis

2242 ATCC 14683. FDA strain PCI, M82. Plate assay of griseofulvin in body fluids and pharmaceutical preparations. (Medium 5, 25C)

Mobiluncus curtisii subsp. *curtisii* Spiegel and Roberts

2930^T ATCC 35241. (NCTC 11656). **Type strain.** Human vagina. (Medium 4 and/or 9, 37C, anaerobic)

Moraxella anatipestifer see *Riemerella anatipestifer*

Moraxella (Branhamella) catarrhalis (Frosch and Kolle) Bovre

Basonym: *Branhamella catarrhalis*

1094 NCTC 3622. (Medium 1, 37C)

2565^T ATCC 25238. (DSM 9143, NCTC 11020). **Type strain.** (Medium 1, 37C)

3428 ATCC 49143. AmMS 116. Quality control of MicroScan® panels. Clinical isolate. (Medium 1, 37C)

3779 NZ isolate AS 79/0077. Eye infection. Beta-lactamase positive. (Medium 1, 37C).

4076 ATCC 25240. Strain N9. Quality control strain for API products. (Medium 1, 37C).

Moraxella (Branhamella) caviae (Pelczar) Bovre

Synonym: *Neisseria caviae*

3258^T University of Manitoba, Winnipeg from NCTC 10293. (ATCC 14659). **Type strain.** Guinea-pig pharynx. (Medium 2, 37C)

Moraxella (Moraxella) bovis (Hauduroy et al.) Murray

830^T CDC KC745. (ATCC 10900, DSM 6328, NCTC 11013). **Type strain.** Cattle with pinkeye. (Medium 2, 37C)

Moraxella (Moraxella) lacunata (Eyre) Lwoff

829 CDC KC750(l). (ATCC 17956). Guinea pig eye. (Medium 2, 37C)

Moraxella (Moraxella) nonliquefaciens (Scarlett) Bovre

2528 ATCC 17954. Production of restriction enzymes. Throat. (Medium 2, 37C)

Moraxella (Moraxella) osloensis (Bovre and Henriksen) Bovre

827^T CDC A1920. (ATCC 19976, DSM 6998, NCIMB 10693, NCTC 10465). **Type strain.** Cerebrospinal fluid. (Medium 1, 37C)

2387 From Dr E Juni, USA. (ATCC 29721, DSM 6359). Strain trp E55. For transformation assays. (Medium 1, 37C)

3503 ATCC 10973. Strain P Baumann D-10. (Medium 1, 37C)

Moraxella phenylpyruvica see *Psychrobacter phenylpyruvicus*

Moraxella group M-5 see *Neisseria weaveri*

Moraxella group M-6 see *Neisseria elongata* subsp. *nitroreducans*

Moraxella urethralis see *Oligella urethralis*

Morganella morganii subsp. *morganii* (Winslow et al.) Fulton

Synonym: *Proteus morganii*

65^T NCTC 235. (ATCC 25830, DSM 30164, NCIMB 235). **Type strain.** A case of summer diarrhoea. (Medium 1, 37C)

Mycobacterium fortuitum subsp. *fortuitum* da Costa Cruz

4047^T ATCC 6841. (DSM 46621, NCTC 10394, TMC 1529). **Type strain.** Media quality control strain (NCCLS M22-A2). Taxonomy/description. Cold abscess, human. (Lowenstein-Jensen medium, 37C).

Other *Mycobacterium* species – please inquire.

Mycoplasma - some species are held, please inquire

Myroides odoratus (Stutzer) Vancanneyt et al.

Basonym: *Flavobacterium odoratum*

1229 NZ isolate NHI 75/0423. (CDC D2627). CDC group M-4f. Foot. (Medium 1, 37C)

Neisseria caviae see *Moraxella (Branhamella) caviae*

Neisseria cinerea (von Lingelsheim) Murray

2927^T ATCC 14685. (DSM 4630, NCTC 10294). **Type strain.** Normal mucosa of nasopharynx of man, Germany. (Medium 3, 37C)

3077 NZ isolate NHI AS 85/0453. (CDC G2823). Throat. (Medium 3, 37C)

Neisseria elongata subsp. *nitroreducans* Grant et al.

2376 NZ isolate NHI SB79/0263. (CDC E6825). J Clin Microbiol 1988; **26**: 484-92.

Moraxella sp. group M-6. Blood. (Medium 3, 37C, 5% CO₂)

Neisseria flava Bergey et al.

844 CDC KC808. (Medium 2, 37C)

Neisseria flavescens Branham

59 NCTC 3191. (ATCC 13119). Spinal fluid. (Medium 2, 37C)

Neisseria gonorrhoeae (Zopf) Trevisan

1035 CDC F-14. Antibiotic Sensitivity Reference Strain. MIC (mg/L), Ampicillin 0.06; Penicillin 0.06; Tetracycline 0.25; Spectinomycin 32. (Medium 3, 37C, 5% CO₂)

1036 CDC F-18. (ATCC 49226, DSM 9189, NCTC 12700). Antibiotic Sensitivity Reference Strain. MIC (mg/L), Ampicillin 0.25; Penicillin 0.5; Tetracycline 1.0-2.0; Spectinomycin 16 (12). Control for aerobic antimicrobial susceptibility testing (NCCLS M2-A6, M7-A4). (Medium 3, 37C, 5% CO₂)

1037 CDC F-29. Antibiotic Sensitivity Reference Strain. MIC (mg/L), Ampicillin 0.03; Penicillin 0.015; Tetracycline 0.25; Spectinomycin 8. (Medium 3, 37C, 5% CO₂)

1040^T NCTC 8375. (ATCC 19424, DSM 9188). **Type strain.** (Medium 3, 37C, 5% CO₂)

1246 Dr Alice Reyn, WHO Reference Centre NFIII Penicillin Sensitivity Reference Strain. MIC (iu/ml), Penicillin 0.12, in NZRM testing. (Medium 3, 37C, 5% CO₂)

1247 Dr Alice Reyn, WHO Reference Centre NFV Penicillin Sensitivity Reference Strain. MIC (iu/ml), Penicillin 0.5, in NZRM testing. (Medium 3, 37C, 5% CO₂)

1248 Dr Alice Reyn, WHO Reference Centre NFVII Penicillin Sensitivity Reference Strain. MIC (iu/ml), Penicillin 0.03, in NZRM testing. (Medium 3, 37C, 5% CO₂)

2221 CDC 76-061782. Beta-lactamase positive. Antibiotic Sensitivity Reference Strain. MIC (mg/L), Ampicillin 8.0; Penicillin 4.0; Tetracycline 1.0; Spectinomycin 12; Gentamicin 2.0; Cephalothin 1.0; Chloramphenicol 2.0; Erythromycin 0.03; Sulfa/Trimethoprim 9.5/.5. (Medium 3, 37C, 5% CO₂)

2222 CDC 76-073389. (ATCC 31426). Beta-lactamase positive. Antibiotic Sensitivity Reference Strain. MIC (mg/L), Ampicillin 8.0; Penicillin 2.0; Tetracycline 1.0; Spectinomycin 8.0; Gentamicin 2.0; Cephalothin 0.5; Chloramphenicol 2.0; Erythromycin 0.5; Sulfa/Trimethoprim 9.5/.5. (Medium 3, 37C, 5% CO₂)

2223 CDC 77-036430. Spectinomycin resistant. (Medium 3, 37C, 5% CO₂)

2224 CDC Ng-II5. Control strain for evaluation of modified Thayer Martin medium. (Medium 3, 37C, 5% CO₂)

2225 CDC Ng-III. Control strain for evaluation of modified Thayer Martin medium. (Medium 3, 37C, 5% CO₂)

3045 NCTC 10928. (ATCC 27628). BW Catlin ODH 2915. Representative of auxotype 1. (Medium 3, 37C, 5% CO₂)

3046 NCTC 10929. (ATCC 27629). BW Catlin MHD 340. Representative of auxotype 5. (Medium 3, 37C, 5% CO₂)

3047 NCTC 10930. (ATCC 27630). BW Catlin MHD 361. Representative of auxotype 9. (Medium 3, 37C, 5% CO₂)

3048 NCTC 10931. (ATCC 27631). BW Catlin SS 7764/45. Representative of auxotype 22. (Medium 3, 37C, 5% CO₂)

3049 NCTC 10932. (ATCC 27632). BW Catlin MCH 3317/70. Representative of auxotype 12.

- (Medium 3, 37C, 5% CO₂)
- 3050 NCTC 10933. (ATCC 27633). BW Catlin MHD 446. Representative of auxotype 16. (Medium 3, 37C, 5% CO₂)
- 3172 Australian Gonococcal Surveillance Programme (AGSP) QC 39. WHO A. MIC penicillin (mg/L) 0.008. (Medium 3, 37C, 5% CO₂)
- 3173 AGSP QC 37. WHO B. MIC penicillin (mg/L) 0.06. (Medium 3, 37C, 5% CO₂)
- 3174 AGSP QC 40. WHO C. MIC penicillin (mg/L) 0.25. (Medium 3, 37C, 5% CO₂)
- 3175 AGSP QC 38. WHO D. MIC penicillin (mg/L) 1.0. (Medium 3, 37C, 5% CO₂)
- 3176 AGSP QC 36. WHO E. MIC penicillin (mg/L) 2.0. (Medium 3, 37C, 5% CO₂)
- 3200 ATCC 43070. J Lewis CDC Ng-98. Media quality control strain (NCCLS M22-A2). (Medium 3, 37C, 5% CO₂)
- 3246 ATCC 43069. J Lewis CDC Ng-116. Media quality control strain (NCCLS M22-A2). Cervix. (Medium 3, 37C, 5% CO₂)
- 3295 National Laboratory for Sexually Transmitted Diseases, Ottawa, Ontario. GC452. Contains 2.6, 3.05 and 24.5 Md plasmids. (Medium 3, 37C, 5% CO₂)
- 3296 NZ isolate AS84/417. Contains 'NZ' plasmid, 6.5 Md (= 9 kb). (Medium 3, 37C, 5% CO₂)
- 3330 NZ isolate AS91/376. Tetracycline-resistant *Neisseria gonorrhoeae* (TRNG) and penicillinase-producing *Neisseria gonorrhoeae* (PPNG). High level tetracycline resistance MIC \geq 16 mg/L. (Medium 3, 37C, 5% CO₂)
- 3663 NZ isolate SB 98/501, AR 98/741. MIC vancomycin 1mg/L (lower than usual for *Neisseria gonorrhoeae*) Poor or no growth on Modified Thayer Martin medium. Cervical swab. (Medium 3, 37C, 5% CO₂).
- 4033 AGSP QC 00/3. Ciprofloxacin resistant, MIC 2.0 mg/L. (Medium 3, 37C, 5% CO₂).

Also held in the Collection is a set of *Neisseria gonorrhoeae* serotyping control strains.

Neisseria lactamica Hollis et al.

- 845 CDC C4872. (Medium 2, 37C)
- 2590^T ATCC 23970. (DSM 4691, NCDC A 7515, NCTC 10617). **Type strain**. Nasopharynx. (Medium 2, 37C)

Neisseria meningitidis (Albrecht and Ghon) Murray

- 61 NCTC 3372. Group A. Gordon and Murray type I. (Medium 3, 37C, 5% CO₂)
- 154^T NCTC 10025. (ATCC 13077, DSM 10036). **Type strain**. Designated reference strain for Group A. Branham strain M 1027. Spinal fluid. (Medium 3, 37C, 5% CO₂)
- 155 NCTC 10026. (ATCC 13090). Designated reference strain for Group B. Branham strain M 2092. Media quality control strain (NCCLS M22-A2). Spinal fluid. (Medium 3, 37C, 5% CO₂)
- 156 NCTC 8554. (ATCC 13102). Designated reference strain for Group C. Branham and Carlin's Group II-alpha. Branham strain M 1628. Spinal fluid. (Medium 3, 37C, 5% CO₂)
- 158 Public Health Laboratory, Manchester. Strain S-1079. Sulphonamide resistant. (Medium 3, 37C, 5% CO₂)
- 159 Public Health Laboratory, Manchester. Strain S-1105. Sulphonamide resistant. Group C. (Medium 3, 37C, 5% CO₂)
- 160 NCTC 9714. (ATCC 13113). Designated reference strain for Group D. Branham strain M 158. Spinal fluid. (Medium 3, 37C, 5% CO₂)
- 286 CDC. Strain Slaterus X. (Medium 3, 37C, 5% CO₂)
- 287 CDC. Strain Slaterus Y. (Medium 3, 37C, 5% CO₂)
- 288 CDC. Strain Slaterus Z. (Medium 3, 37C, 5% CO₂)
- 592 International Reference Centre, Marseilles, France. 0184.4.13. Group A. (Medium 3, 37C, 5% CO₂)
- 593 International Reference Centre, Marseilles, France. 0450.2.3. Group B. (Medium 3, 37C, 5% CO₂)
- 594 International Reference Centre, Marseilles, France. 0638.1.2. Group C. (Medium 3, 37C, 5% CO₂)
- 1033 CDC F-8. Antibiotic Sensitivity Reference Strain. MIC (mg/L), Penicillin 0.06; Rifampin 0.06; Sulfadiazine 128. Group B. (Medium 3, 37C, 5% CO₂)
- 1034 CDC F-10. Antibiotic Sensitivity Reference Strain. MIC (mg/L), Penicillin 0.03; Rifampin 0.03; Sulfadiazine 0.5. Group B. (Medium 3, 37C, 5% CO₂)
- 1043 CDC 962. Group A. Antisera preparation. (Medium 3, 37C, 5% CO₂)
- 1044 CDC 1027. Group A. Antisera preparation. (Medium 3, 37C, 5% CO₂)
- 1045 CDC 1894. Group A. Antisera preparation. (Medium 3, 37C, 5% CO₂)
- 1046 CDC 997. Group B. Antisera preparation. (Medium 3, 37C, 5% CO₂)

- 1047 CDC 2091. Group B. Antisera preparation. (Medium 3, 37C, 5% CO₂)
 1048 CDC 2092. Group B. Antisera preparation. (Medium 3, 37C, 5% CO₂)
 1049 CDC 1166. Group C. Antisera preparation. (Medium 3, 37C, 5% CO₂)
 1050 CDC 1054. Group C. Antisera preparation. (Medium 3, 37C, 5% CO₂)
 1051 CDC 1628. Group C. Antisera preparation. (Medium 3, 37C, 5% CO₂)
 1052 CDC 158. Group D. Antisera preparation. (Medium 3, 37C, 5% CO₂)
 1053 CDC KC660. Slaterus X. Antisera preparation. (Medium 3, 37C, 5% CO₂)
 1054 CDC KC661. Slaterus Y. Antisera preparation. (Medium 3, 37C, 5% CO₂)
 1055 CDC KC662. Slaterus Z. Antisera preparation. (Medium 3, 37C, 5% CO₂)
 1283 CDC KC870. Group W 135. Antisera preparation. (Medium 3, 37C, 5% CO₂)
 1963 CDC KC795. Slaterus Group Z' (29 E). Antisera preparation. (Medium 3, 37C, 5% CO₂)
 2226 CDC Nm-2. Control strain for evaluation of modified Thayer Martin medium. Group B. (Medium 3, 37C, 5% CO₂)

Neisseria mucosa Veron et al.

- 842 CDC C2186. (Medium 1, 37C)

Neisseria perflava Bergey et al.

- 846 CDC KC649. (Medium 2, 37C)

Neisseria pharyngis Wilson and Smith

- 3257 University of Manitoba, Winnipeg from NCTC 4590. *Neisseria pharyngis* var. *flavus*. (Medium 1, 37C)

Neisseria polysaccharea Riou and Guibourdenche

- 3002^T NCTC 11858. (ATCC 43768, CIP 100.113). **Type strain**. Throat of healthy child. (Medium 3, 37C, 5% CO₂)

Neisseria sicca (von Lingelsheim) Bergey et al.

- 841 CDC C620. (Medium 2, 37C)
 3247 ATCC 9913. Atypical, probably *Neisseria subflava* (CDC). Media quality control strain (NCCLS M22-A2). (Medium 2, 37C)

Neisseria subflava (Flugge) Trevisan

- 843 CDC KC645. (Medium 2, 37C)
 3364 PHLS Centre, Porton Down Strain A1078. (Medium 2, 37C)

Neisseria weaveri Holmes et al.

- Synonym: *Moraxella* group M-5
 2759 NZ isolate NHI SB81/0708. (CDC F2404). Microbiol 1994; **140**: 2867-91. Finger, dog bite. (Medium 2, 37C)

Nocardia asteroides (Eppinger) Blanchard

- 149 NZ isolate 1967. (Medium 1, 37C)

Nocardia brasiliensis (Lindenberg) Pinoy

- 1038 NCTC 10300. (ATCC 19295, DSM 43064). (Medium 15, 37C)

Nocardia corynebacterioides Serrano et al.

- 3584^T DSM 20151. (ATCC 14898, NCIB 9433, NCTC 10391). **Type strain**. Air contaminant of culture medium. (Medium 1, 37C)

Nocardia transvalensis Pijper and Pullinger

- 3591^T DSM 43405. (ATCC 6865, DSM 43582, NCTC 2392). **Type strain**. Mycetoma pedis. (Medium 15, 30C)

Ochrobacterium authropi Holmes et al.

- 1259 NZ isolate NHI 76/3045. (CDC D7969). Dialysis fluid. (*Achromobacter* sp. group Vd biotype 2). (Medium 1, 37C)

- Oerskovia turbata* (Erikson) Pauser et al. emend. Stackebrandt et al.
 Synonym: *Cellulomonas turbata*
 2992^T ATCC 25835. (DSM 20577, CIP 100331, NCIB 10587, NCTC 11973). **Type strain.** Soil. (Medium 2, 25C)
- Oerskovia xanthineolytica* see *Cellulosomicrobium cellulans* NZRM 2993
- Oligella ureolytica* Rossau et al.
 3321^T ATCC 43534. (CCUG 1465, CDC 379, NCTC 11997). **Type strain.** Urine. (Medium 3, 37C, 5% CO₂)
- Oligella urethralis* (Lautrop et al.) Rossau et al.
 Basonym: *Moraxella urethralis*
 2758 NZ isolate NHI SB80/0594. (CDC E9301). Ear. (Medium 1, 37C)
 3008^T UMRL 1212. (ATCC 17960, CCUG 13463, CDC 7603, DSM 7531, NCIMB 13140). **Type strain.** Ear. (Medium 1, 37C)
- Paenibacillus polymyxa* (Prazmowski) Ash et al.
 Basonym: *Bacillus polymyxa*
 2505 ATCC 10401. (NCIMB 8094). American Cyanamid Co. Produces polymyxin. (Medium 1, 37C)
 2589^T ATCC 842. (DSM 36, NCIB 8158, NCTC 10343,). **Type strain.** (Medium 1, 37C)
- Pantoea agglomerans* (Ewing and Fife) Gavini et al.
 Basonym: *Enterobacter agglomerans*
 1092 CDC CI977. (Medium 1, 37C)
- Paracoccus yeei* Daneshvar et al.
 2926 NZ isolate NHI SB 85/0098. (CDC F7496). CDC group EO-2. Peritoneal dialysis fluid. (Medium 1, 37C)
- Pasteurella aerogenes* McAllister and Carter
 2575^T ATCC 27883. (DSM 10153). **Type strain.** Characterisation. Swine intestine. (Medium 2, 37C)
- Pasteurella bettyae* Sneath and Stevens
 1089 CDC B6841. (Medium 3, 37C, 5% CO₂)
- Pasteurella dagmatis* Mutters et al.
 959 NZ isolate NHI S43 (1973), A Woodgyer. (CDC C8828). NZ J Med Lab Technol 1976; **30**: 7-II. (*Pasteurella* sp. new species 1). Oral cavity, cat. (Medium 2, 37C)
- Pasteurella haemolytica* see *Mannheimia haemolytica*
- Pasteurella multocida* subsp. *multiocida* (Lehmann and Newmann) Rosenbusch and Merchant
 104 NCTC 8565. Turkey liver. (Medium 2, 37C)
 2708 ATCC 15742. Production of fowl-cholera vaccines. Turkey liver. (Medium 2, 37C)
 3311^T ATCC 43137. (NCTC 10322). **Type strain.** Pig. (Medium 2, 37C)
 3431 Deposited by D Yeoman, obtained from Portugal. Roberts type I. (Medium 2, 37C)
 3432 Deposited by D Yeoman, obtained from Portugal. Roberts type II. (Medium 2, 37C)
 3433 Deposited by D Yeoman, obtained from Portugal. Roberts type III. (Medium 2, 37C)
 3434 Deposited by D Yeoman, obtained from Portugal. Roberts type IV. (Medium 2, 37C)
 3435 Deposited by D Yeoman, obtained from Portugal. Roberts type V. (Medium 2, 37C)
 3436 Lisbon University of Veterinary Medicine, Portugal. Roberts type VI. Deposited by D Yeoman. (Medium 2, 37C)
- Pasteurella pneumotropica* Jawetz
 815^T NCTC 8141. (ATCC 35149). **Type strain.** Mouse lung. (Medium 2, 37C)
- Pasteurella ureae* see *Actinobacillus ureae*

Pasteurella volantium Mutters et al.

- 1011 NCTC 4101. Human tongue. (Medium 3, 37C, 5% CO₂)
 2523^T ATCC 14385. (NCTC 3438). **Type strain.** Production of restriction enzymes. No longer requires X factor for growth. Respiratory passage of fowl, England. (Medium 3, 37C, 5% CO₂)

Pectobacterium carotovora subsp. *carotovora* (Jones) Hauben et al. emend. Gardan et al.

- Basonym: *Erwinia carotovora* subsp. *carotovora*
 3949^T ICMP 5702. (ATCC 15713, DSM 30168). **Type strain.** Potato. (Medium 1, 25C).

Pediococcus acidilactici Lindner

- 3230 ATCC 33314. (DSM 20333, NCDO 1859). (Medium 2, 37C, 5% CO₂)

Penicillium chrysogenum Thom

- 2999 ATCC 10002. (CBS 277. 47, CM1 37767). From Lovens Kemiske Fabrik, Ballerup, Denmark. Z29. Q-176. (Medium 5, 30C)

Pedobacter heparinus (Payza and Korn) Steyn et al.

- Basonym: *Cytophaga heparina*
 Basonym: *Flavobacterium heparinum*
 Basonym: *Sphingobacterium heparinum*
 1153^T NCIB 9290. (ATCC 13125, DSM 2366). **Type strain.** Experimental degradation of heparin. (Medium 1, 37C)

Peptococcus asaccharolyticus see *Peptoniphilus asaccharolyticus**Peptococcus magnus* see *Finegoldia magna**Peptoniphilus asaccharolyticus* (Distaso) Ezaki et al.

- Basonym: *Peptococcus asaccharolyticus*
 Basonym: *Peptostreptococcus asaccharolyticus*
 2903^T ATCC 14963. (DSM 20463, NCIMB 10074, NCTC 11461). **Type strain.** (Medium 4 and/or 9, 37C, anaerobic)

Peptostreptococcus anaerobius (Natvig) Kluyver and van Niel

- 2843^T NCTC 11460. (ATCC 27337, DSM 2949, VPI 4330). **Type strain.** Media quality control strain (NCCLS M22-A2). (Medium 4 and/or 9, 37C, anaerobic)

Peptostreptococcus asaccharolyticus see *Peptoniphilus asaccharolyticus**Peptostreptococcus magnus* see *Finegoldia magna**Photobacterium damsela* subsp. *damsela* (Love et al.) Smith et al. emend. Kimura et al.

- Basonym: *Listonella damsela*
 Basonym: *Vibrio damsela*
 2689^T ATCC 33539. (CDC 2588-80, DSM 7482, NCTC 11647). **Type strain.** Skin lesion on damselfish. (Medium 20, 25C)

Plesiomonas shigelloides (Bader) Habs and Schuber

- 805^T NCTC 10360. (ATCC 14029, DSM 8224, NCIB 9242). **Type strain.** (Medium 1, 37C)

Porphyromonas asaccharolytica (Holdeman and Moore) Shah and Collins

- Basonym: *Bacteroides asaccharolyticus*
 1007 NCTC 9337. Infected haemorrhoidectomy. (Medium 4 and/or 9, 37C, anaerobic)
 3256^T University of Manitoba, Winnipeg from ATCC 25260. (DSM 20707). **Type strain.** Empyema. (Medium 4 and/or 9, 37C, anaerobic)

Porphyromonas gingivalis (Coykendall et al.) Shah and Collins

- Basonym: *Bacteroides gingivalis*
 3292^T ATCC 33277. (DSM 20709, NCTC 11834). **Type strain.** Human gingival sulcus. (Medium 4 and/or 9, 37C, anaerobic)
 3366 PHLS Centre for Applied Microbiology and Research, Porton Down, UK. Strain W50. (ATCC 53978). Clinical isolate. (Medium 4 and/or 9, 37C, anaerobic)

- Porphyromonas levii* (Johnson and Holdeman) Shah et al.
 Basonym: *Bacteroides levii*
 3496^T ATCC 29147. (NCTC 11028). **Type strain.** Bovine rumen.
 (Medium 4 and/or 9, 37C, anaerobic)
- Prevotella buccae* (Holdeman et al.) Shah and Collins
 Basonym: *Bacteroides buccae*
 3598^T ATCC 33574. (DSM 20615, NCDO 2353). **Type strain.** Gingival crevice with moderate
 periodontitis. (Medium 21 and/or 9, 37C, anaerobic)
- Prevotella corporis* (Johnson and Holdeman) Shah and Collins
 Basonym: *Bacteroides corporis*
 3597^T ATCC 33547. **Type strain.** Cervical swab. (Medium 4 and/or 9, 37C, anaerobic)
- Prevotella intermedia* (Holdeman and Moore) Shah and Collins
 Basonym: *Bacteroides intermedius*
 Basonym: *Bacteroides melaninogenicus* subsp. *intermedius*
 2396 NZ isolate NHI 77/2452. (VP1 12376). Vagina. (Medium 4 and/or 9, 37C, anaerobic)
 2928^T ATCC 25611. (DSM 20706, VP1 4197). **Type strain.** Empyema.
 (Medium 4 and/or 9, 37C, anaerobic)
- Prevotella melaninogenica* (Oliver and Wherry) Shah and Collins emend. Wu et al.
 Basonym: *Bacteroides melaninogenicus*
 3255^T University of Manitoba, Winnipeg from ATCC 25845. (DSM 7089). **Type strain.** Sputum.
 (Medium 4 and/or 9, 37C, anaerobic)
- Prevotella oralis* (Loesche et al.) Shah and Collins
 Basonym: *Bacteroides oralis*
 2920^T ATCC 33269. (DSM 20702, NCTC 11459, VP1 D27B-24). **Type strain.** Human periodontal
 pocket. (Medium 4 and/or 9, 37C, anaerobic)
- Propionibacterium acnes* (Gilchrist) Douglas and Gunter
 1078^T NCTC 737. (ATCC 6919, DSM 1897, VPI 0389). **Type strain.** Cell wall and DNA analyses.
 Facial acne. (Medium 4 and/or 9, 37C, anaerobic)
- Propionibacterium granulosum* (Prevot) Moore and Holdeman
 907 CDC 9055. (Medium 21 and/or 9, 37C, anaerobic)
 2588 ATCC 11829. (NCTC 10387, VPI 0210). Cell wall and DNA analyses. *Corynebacterium*
parvum. (Medium 4 and/or 9, 37C, anaerobic)
- Propionibacterium propionicus* (Buchanan and Pine) Charfreitag et al.
 Basonym: *Arachnia propionica*
 902^T CDC 14705. (ATCC 14157, DSM 43307, VP1 0026). **Type strain.** Small concretions
 from human lacrimal duct. (Medium 4 and/or 9, 37C, anaerobic)
- Proteus mirabilis* Hauser
 64 NCTC 5887. (NCIMB 5887). Glucose estimation. (Medium 1, 37C)
 69 NCTC 8309. OXK. (Medium 1, 37C)
 1136 NCIB 10823. (NCTC 10975). BS7II. Gentamicin assay. Urine. (Medium 1, 37C)
 2229 CDC S-17. (ATCC 43071). Media quality control strain (NCCLS M22-A2). Rectum.
 (Medium 1, 37C)
 3248 ATCC 12453. Comment: gelatin not liquefied. Media quality control strain (NCCLS
 M22-A2). (Medium 1, 37C)
 3472 ATCC 29852. Vitek Systems Inc 4358. Clinical isolate. (Medium 1, 37C)
 3473 ATCC 29854. Vitek Systems Inc 58. Clinical isolate. (Medium 1, 37C)

Also held in the Collection are a set of strains for *Proteus mirabilis* bacteriocine typing.

Proteus morgani see *Morganella morgani* subsp. *morgani*

Proteus rettgeri see *Providencia rettgeri*

Proteus vulgaris Hauser

- 67 NCTC 4175. (ATCC 13315, DSM 30118, NCIB 4175). Assay of valine and leucine. (Medium 1, 37C)
- 68 NCTC 8313. (NCIMB 8261). OX19. (Medium 1, 37C)
- 70 NCTC 8311. (NCIMB 8259). OX2. (Medium 1, 37C)
- 996 NCTC 4635. (NCIMB 11833). OXL (Felix). Disinfectant testing. (Medium 1, 37C)
- 3401 ATCC 49132. AmMS 105. Quality control of Microscan® panels. Clinical isolate. (Medium 1, 37C)
- 3474 ATCC 6380. OX19 strain. Non motile. (Medium 1, 37C)
- 3475 ATCC 8427. (DSM 2140). Media quality control strain (NCCLS M22-A2). Inner ear infection. (Medium 1, 37C)

Providencia alcalifaciens (de Salles Gomes) Ewing

- 1091 CDC B4513. (Medium 1, 37C)
- 2529^T ATCC 9886. (DSM 30120, NCTC 10286). **Type strain**. No gas from glucose. Production of restriction enzymes. Faeces. (Medium 1, 37C)

Providencia rettgeri (Hadley et al.) Brenner et al.

- Synonym: *Proteus rettgeri*
- 66 NCTC 7475. Faeces. (Medium 1, 37C)

Providencia rustigiani Hickman-Brenner et al.

- 7 NCTC 6932. *Bacterium wakefield*. Contains alpha antigen of Stamp and Stone. (Medium 1, 37C)

Providencia stuartii (Buttiaux et al.) Ewing

- 1090 CDC B8847. (Medium 1, 37C)

Pseudomonas aeruginosa (Schroeter) Migula

- 107 NZ isolate NHI 63/2809. (Medium 1, 37C)
- 692 ATCC 14502. Testing of antiseptics. (Medium 1, 37C)
- 918 CDC F32. (ATCC 27853, DSM 1117, NCIMB 12469). Boston strain. Recommended reference strain for aerobic antimicrobial susceptibility testing (NCCLS M2-A6, M7-A4). Media quality control strain (NCCLS M22-A2). Blood culture. (Medium 1, 37C)
- 980 NCTC 10701. (DSM 1299). Carbenicillin assay. Sputum. (Medium 1, 37C)
- 981 NCTC 10662. (ATCC 25668, DSM 46358, NCIMB 13063). Gentamicin and carbenicillin sensitive. Antibiotic sensitivity testing. Clinical isolate. (Medium 1, 37C)
- 997 NCTC 6749. (ATCC 19582, NCIMB 11835). Disinfectant test strain. Subsp. *erythrogenes*. Production of pyomelanin and pyorubin. Urine. (Medium 1, 37C)
- 2260 ATCC 25619. FDA strain PCI 852. Carbenicillin assay. Susceptibility disc testing of carbenicillin and vancomycin. (Medium 1, 37C)
- 2576 ATCC 9027. (DSM 1128, NCIB 8626). Assay of antimicrobial preservatives. Outer ear infection. (Medium 1, 37C)
- 2584 ATCC 15442. (DSM 839, NCIB 10421). Disinfectant testing AOAC method. Pyocyanin not produced. Animal room water bottle. (Medium 1, 37C)
- 2711 NCTC 6750. (ATCC 19429, DSM 3227, NCIB 6750). Sterility testing, antimicrobial preservative testing. Non motile, produces pyocyanin, pyorubin, pyoverdin. Lysogenic strain. Urine. (Medium 1, 37C)
- 3007^T UMRL 1203. (ATCC 10145, DSM 50071, NCIB 8295, NCTC 10332). **Type strain**. Bacterial resistance testing of latex paint. (Medium 1, 37C)
- 3392 NCIMB 10523. (ATCC 19142). Produces material resembling alginic acid. Tracheobronchial secretions. (Medium 1, 37C)
- 4034 NZ isolate AR 00/537. MIC (mg/L) ceftazidime 256.0; piperacillin >256.0. Useful as a control culture in multiple combination bactericidal testing (MCBT). Sputum. (Medium 1, 37C).

Also held in the Collection are *Pseudomonas aeruginosa* strains for phage typing, pyocine typing and serotyping schemes.

Pseudomonas alcaligenes Monias

- 851 CDC B296. (Medium 1, 37C)

Pseudomonas cepacia see *Burkholderia cepacia*

Pseudomonas diminuta see *Brevundimonas diminuta*

Pseudomonas fluorescens Migula

- 862^T NCTC 10038. (ATCC 13525, DSM 50090, NCIB 9046). **Type strain**. Pre-filter tanks, England. (Medium 1, 25C)
1219 NZ isolate NHI 76/1757. Urine. (Medium 1, 25C)

Pseudomonas fragi (Eichholz) Huss

- 2744^T NCTC 10689. (ATCC 4973, DSM 3456, NCIB 8542). **Type strain**. (Medium 1, 25C)

Pseudomonas gladioli see *Burkholderia gladioli*

Pseudomonas luteola Kodama et al.

- 2027 NZ isolate NHI 78/0735. (CDC E3359). Dialysis fluid. (*Chryseomonas luteola*). (Medium 1, 37C)

Pseudomonas maltophilia see *Stenotrophomonas maltophilia*

Pseudomonas mesophilica see *Methylobacterium mesophilicum*

Pseudomonas oryzihabitans Kodama et al.

- 2199 NZ isolate NHI 78/3511. (CDC E4569). Blood. (*Flavimonas oryzihabitans*). (Medium 1, 37C)

Pseudomonas paucimobilis see *Sphingomonas paucimobilis*

Pseudomonas pickettii see *Ralstonia pickettii*

Pseudomonas putida (Trevisan) Migula

- 852 CDC KCl074. (Medium 1, 37C)

Pseudomonas sp.

- 3260 D Mountfort, Cawthron Institute, Nelson. NZ Strain G17. Capable of producing γ -aminobutyric acid. Appl Environ Microbiol 1992; **58**: 237-42. Seawater. (Medium 20, 25C)

Pseudomonas sp. CDC group 1

- 853 CDC B6500(1). (Medium 1, 37C)

Pseudomonas stutzeri (Lehmann and Newmann) Sijderius

- 1217 NZ isolate NHI 76/0642. (CDC D6620). *Pseudomonas stutzeri* complex, Vb-3. Tibia wound. (Medium 1, 37C)
2007^T CDC KCl077. (ATCC 17588, DSM 5190, NCIB 11358). **Type strain**. Spinal fluid. (Medium 1, 37C)

Pseudomonas testosteroni see *Comamonas testosteroni*

Pseudomonas vesicularis see *Brevundimonas vesicularis*

Pseudomonas-like (PL) CDC group 2

- 2962 NZ isolate NHI SB86/0175. (CDC F8571). Blood. (Medium 1, 37C)

Pseudoramibacter alactolyticus (Prevot and Taffanel) Willems and Collins

- Basonym: *Eubacterium alactolyticum*
1988^T ATCC 23263. (DSM 3980, VPI 0416). **Type strain**. Purulent pleurisy. (Medium 4 and/or 9, 37C, anaerobic)

Psychrobacter phenylpyruvicus (Bovre and Henriksen) Bowman et al.

- Basonym: *Moraxella phenylpyruvica*
828 CDC A99II. (Medium 2, 37C)

Rahnella aquatilis Izard et al.

- 3285 NZ isolate ER91/2711. Referred from Wellington City Council Laboratory. Water. (Medium 1, 37C)
 3696 NZ isolate ER 99/4736. Foot laceration. (Medium 1, 37C).

Ralstonia paucula Vandamme et al.

- 2655 NZ isolate NHI SB80/0306. (CDC F 3906). CDC group Ivc-2. Blood. (Medium 1, 37C)

Ralstonia pickettii (Ralston et al.) Yabuuchi et al.

Basonym: *Burkholderia pickettii*

Basonym: *Pseudomonas pickettii*

- 1233 NZ isolate NHI 76/264I. (CDC D7516, D7392). CDC group Va-2. Blood. (Medium 1, 37C)
 2020 NZ isolate NHI 76/3915. (CDC D8893). CDC group Va-I. Crystal violet solution. (Medium 1, 37C)

Raoultella terrigena (Izard et al.) Drancourt et al.

Basonym: *Klebsiella terrigena*

- 3568^T NCIMB 12053. (ATCC 33257, DSM 2687). **Type strain**. Drinking water. (Medium 1, 37C)

Rhizobium radiobacter (Beijerinck and van Delden) Young et al.

Basonym: *Agrobacterium radiobacter*

- 3000^T ICMP 5785. (ATCC 19358, DSM 30147, NCIB 9042). **Type strain**. Stated to be biovar 1, but 3-ketolactonate negative in NZRM testing. (Medium 1, 37C)
 3081 NZ isolate NHI SB 82/0623. (CDC F4185, ICMP 7997). Biovar 1. Blood. (Medium 1, 37C)

Rhodococcus bronchialis see *Gordonia bronchialis**Rhodococcus coprophilus* Rowbotham and Cross

- 3533^T NCIMB 11211. (ATCC 29080, DSM 43347, NCTC 10994). **Type strain**. Pond mud. (Medium 1, 25C)

Rhodococcus equi (Magnusson) Goodfellow and Alderson

Basonym: *Corynebacterium equi*

- 869 RARC. Deposited in 1973. (Medium 2, 37C)
 3023^T NCTC 1621. (ATCC 6939, DSM 20307, NCIMB 12828). **Type strain**. Avirulent strain. Lung abscess, foal. (Medium 2, 37C)
 3452 NZ isolate SB85/313. Contains virulence plasmid 85Kb. Aust NZ J Med 1989; **19**: 103-7, J Clin Microbiol 1994; **32**: 457-60. Thoracotomy wound, pneumonia. (Medium 2, 37C)
 3453 NZ isolate AK81FOS. Aust NZ J Med 1989; **19**: 103-7, J Clin Microbiol 1994; **32**: 457-60. Pleural effusion. (Medium 2, 37C)

Rhodococcus erythropolis (Gray and Thornton) Goodfellow and Alderson

- 3586^T DSM 43066. (ATCC 4277, ATCC 25544, CIP 104179, NCIB 11148, NCIB 9158). **Type strain**. Soil. (Medium 15, 25-30C)
 3587 DSM 43188. (ATCC 19369, NCIB 8863). Type strain of *Nocardia calcarea*. Chalky grassland. (Medium 15, 25-30C)

Rhodococcus fascians (Tilford) Goodfellow

Basonym: *Corynebacterium fascians*

- 3566^T DSM 20669. (ATCC 12974, CIP 104713). **Type strain**. (Medium 1, 25C)
 3592 DSM 43673. (ATCC 35014). Type strain of *Rhodococcus luteus*. Soil. (Medium 15, 25-30C)

Rhodococcus globerulus Goodfellow et al.

- 3593^T DSM 43954. (ATCC 25714, NCIMB 12315). **Type strain**. (Medium 15, 25-30C)

Rhodococcus marinonascens Helmke and Weyland

- 3567^T DSM 43752. (ATCC 35653, NCIMB 2246). **Type strain**. Marine sediment. (Medium 1, 25C)

Rhodococcus opacus Klatte et al.

- 3589^T DSM 43205. (ATCC 51881, CIP 104549, NCIMB 13353). **Type strain**. Soil. (Medium 15, 25C)

- Rhodococcus rhodnii* Goodfellow and Alderson
3541 DSM 43959. (CIP 104654). (Medium 1, 25C)
- Rhodococcus rhodochrous* (Zopf) Tsukamura emend Rainey et al.
3538^T DSM 43241. (ATCC 13808, NCIMB 11147, NCTC 10210). **Type strain.** (Medium 1, 25C)
3539 DSM 43274 (ATCC 271). Type strain of *Rhodococcus roseus*. Taxonomy. (Medium 1, 25C)
- Rhodococcus ruber* (Kruse) Goodfellow and Alderson
3540^T DSM 43338. **Type strain.** (Medium 1, 25C)
- Rhodococcus rubropertinctus* see *Gordonia rubropertincta*
- Rhodococcus sputi* see *Gordonia sputi*
- Rhodococcus terrae* see *Gordonia terrae*
- Rhodococcus zopfi* Stoecker et al.
3542^T ATCC 51349. (DSM 44108). **Type strain.** Toluene-phenol bio-reactor, Washington. (Medium 1, 25-30C)
- Riemerella anatipestifer* (Hendrickson and Hilbert) Segers et al. **Distribution restricted**
Basonym: *Moraxella anatipestifer*
1083 CDC KC534. (Medium 2, 37C, 5% CO₂)
- Rochalimaea henselae* see *Bartonella henselae*
- Rothia dentocariosa* (Onishi) Georg and Brown
2980^T NCTC 10917. (ATCC 17931, CDC X599, DSM 43762). **Type strain.** Strain XDIA. Carious teeth. (Medium 1, 37C)
- Rothia mucilaginoso* (Bergan and Kocur) Collins et al.
Basonym: *Stomatococcus mucilaginosus*
3087^T ATCC 25296. (DSM 20746, NCTC 10663). **Type strain.** Pharynx. (Medium 2, 37C)
- Saccharomonospora viridis* (Schuurmans et al.) Nonomura and Ohara
2530^T ATCC 15345. **Type strain** of *Thermopolyspora glauca*. Production of restriction enzymes. Mouldy hay. (Medium 23, 37C)
- Saccharomyces carlsbergensis* see *Saccharomyces pastorianus*
- Saccharomyces cerevisiae* Meyen ex Hansen
1207 NCTC 10716. (ATCC 9763, DSM 1333, NCYC 87, PCI M-50). Assay of nystatin, candidin, amphotericin B and anisomycin. Distillery yeast. (Medium 5, 25C)
2241 ATCC 2601. (DSM 3774, NCYC 853) PCI M-53. Cylinder plate assay of nystatin in pharmaceutical preparations. Cylinder plate assay of amphotericin B. No vitamin requirements. (Medium 5, 25C)
- Saccharomyces pastorianus* Reess ex Hansen
3196 ATCC 9080. (DSM 70424, NCYC 74) Deposited as *Saccharomyces carlsbergensis*. Assay of pantothenic acid, inositol, pyridoxine, pyridoxal, pyridoxamine. Assay of vitamin B6 in food extracts. (Medium 5, 25C)
- Saccharopolyspora rectivirgula* (Krassilnikov and Agre) Korn-Wendisch et al.
Basonym: *Faenia rectivirgula*
Basonym: *Micropolyspora rectivirgula*
1027 LSHTM 1156 (*Micropolyspora faeni*, *Thermopolyspora polyspora*). (Medium 23 or 25, 40-45C)
- Salmonella Arizonae* (Bormann) Kauffmann
91 NCTC 7293. Antigenic formula: 1,2 : 1,2,5. (Medium 1, 37C)

Salmonella Cholerae-suis (Smith) Weldin

- 335 NZ isolate/33. Serotype: 6,7 : c : 1,5. (Medium 1, 37C)
 336 Serotype: 6,7 : c : -. Strain EI79. (Medium 1, 37C)
 338 Col. Sal. 36. Serotype: 6,7 : - : 1,5 var Kunzendorf. (Medium 1, 37C)
 926 CDC 1350. Serotype: 6,7 : c : 1,5. Variety 61,7. (Medium 1, 37C)
 927 CDC 37, 5120. Serotype: 6,7 : (c) : 1,5 var Kunzendorf. Variety 62,7. (Medium 1, 37C)
 1069 NCTC 5738. Serotype: 6,7 : c : 1,5 var Kunzendorf. (Medium 1, 37C)
 1112^T NCTC 5735. (ATCC 13312). Serotype: 6,7 : c : 1,5. **Type strain.** (Medium 1, 37C)
 1113 NCTC 5737. Serotype: 6,7 : c : 1,5 var Kunzendorf. (Medium 1, 37C)
 2639 ATCC 10708. (NCTC 10789). Serotype: 6,7 : c : 1,5. Germicide testing. (Medium 1, 37C)

Salmonella Enteritidis (Gaertner) Castellani and Chalmers

- 351 Col. Sal. 64. (ATCC 13076, NCTC 5765). Serotype: 9,12 : g,m : [1,7]. Strain 1891. var jena. (Medium 1, 37C)
 352 NZ isolate 64/3686. Serotype: 9,12 : g,m : [1,7]. Phage type 4. (Medium 1, 37C)
 3484 NZ isolate ER94/1332. Phage type 9a. (Medium 1, 37C)

Salmonella Typhi (Schroeter) Warren and Scott **Distribution restricted**

- 442 USA. (NCTC 8394). Serotype: 9,12 : d : -. Strain H 901 W form Estimation of TH agglutination titre. (Medium 1, 37C)
 443 UK. (ATCC 10749 and 14901, NCTC 8393). Serotype: 9,12 : - : -. Strain 0 901 W form. Used for the preparation of TO antiserum and pure 122 antiserum. (Medium 1, 37C)
 444^T Col. Sal. 59. (ATCC 19430, NCTC 8385). Serotype: 9,12,Vi : d : -. Strain Felix Ty 2. **Type strain.** Vaccine production. (Medium 1, 37C)
 445 UK. (NCTC 8384). Serotype: 9,12,Vi : d : -. Watson strain. Used for comparative tests of the vaccine strain Ty 2. (Medium 1, 37C)
 446 UK. Serotype: 9,12 : d : -. Lister strain. (Medium 1, 37C)
 449 NCTC 786. Serotype: 9,12 : d : -. Rideal-Walker disinfectant strain. Vi-negative variant. (Medium 1, 37C)
 468 NCTC 8382. Serotype: 9,12,Vi : d : -. Vi-felix. Suitable for the preparation of Vi suspension.
 955 CDC 115. Serotype: 9,12 : d : -. Strain T2. (Medium 1, 37C)
 1111 NCTC 5764. Serotype: Rough : d : -. Strain R 2 rough. Biochemical reactions of *Salmonella* Typhi. (Medium 1, 37C)
 2583 ATCC 6539. (NCTC 10787, PCI 413). Serotype: 9,12 : d : -. Germicide testing. (Medium 1, 37C)
 2625 P.I. 8083/80. Serotype: 9,12,Vi : d : Z66. Test strain for Z66. (Medium 1, 37C)

Salmonella Typhimurium (Loeffler) Castellani and Chalmers

- 450 USA. Serotype: 4,[5],12 : i : 1,2. Strain 1406. Phage type 4. (Medium 1, 37C)
 451 Strain 659. (NCTC 5712). Serotype: 4,12 : i : 1,2. var Copenhagen. Phage type 101. (Medium 1, 37C)
 452 Col. Sal. 13. (NCTC 5714). Serotype: 4,[5],12 : i : 1,2. Strain 0 3173. Phage type 4. (Medium 1, 37C)
 453 NZ isolate NHI 63/443. Serotype: 4,[5],12 : i : 1,2. Phage type 8. (Medium 1, 37C)
 1138 CDC 3988-65. Serotype: 4,[5],12 : i : 1,2. Sucrose positive, H₂S positive on P.I.A. Phage type 41. (Medium 1, 37C)
 3226 ATCC 14028. (CDC 6516-60, NCTC 12023). Media quality control strain (NCCLS M22-A2). Teaching. Phage type 132. (Medium 1, 37C)
 3479 NZ isolate ER94/316. Phage type 42a. (Medium 1, 37C)
 3632 Strain WG 49. Assay of f-RNA phage. Deposited by L W Sinton ← G Lewis ←. A H Havelaar (Medium 30, 37C)
 3633 Strain WG 45. Parent strain of *Salmonella* Typhimurium WG 49. Deposited by L W Sinton ← G Lewis. (Medium 1, 37C)
 3970 NZ isolate ER 00/3165. 4,12 : i : 1,2. Phage type 104. Antibiotic resistant strain. (Medium 1, 37C).
 4022 NZ isolate ER 00/3038. 4,5,12 : i : 1,2. Phage type 160. Sparrow, Christchurch. (Medium 1, 37C).
 4023 NZ isolate ER 00/5441. 4,5,12 : i : 1,2. Phage type 160. Human, Christchurch. (Medium 1, 37C).
 4025 NZ isolate ER 00/3719. 4,5,12 : i : 1,2. Phage type 160. Quail, Rangiora. (Medium 1, 37C).
 4040 CDC AMO 3398. 4,5,12 : i : 1,2. Phage type 160. Human, Minnesota 1998. (Medium 1, 37C).
 4041 CDC AMO 4311. 4,5,12 : i : 1,2. Phage type 160. Human, Massachusetts, 1998. (Medium 1,

- 37C).
4046 ATCC 700730. Strain WG 49. 4,5,12 : i : 1,2. Male specific coliphage host. (Medium 1, 37C).

SALMONELLA SEROTYPES

Aberdeen

- 301 Col. Sal. 90. (NCTC 5791). 11 : i : 1,2. (Medium 1, 37C)

Abony

- 2712 NCTC 6017. 1,4,5,12 : b : e,n,x. Microbial limits test. (Medium 1, 37C)

Abortusequi

- 302 Col. Sal. 26. 4,12 : - : e,n,x. Strain Beta 202. (Medium 1, 37C)
303 NCTC 5727. 4,12 : - : e,n,x. (Medium 1, 37C)
920 CDC 26. 4,12 : - : e,n,x. Contains e,n,x,z16 in phase 2. (Medium 1, 37C)

Abortusovis

- 1209 NCTC 10241. 4,12 : c : 1,6. (Medium 1, 37C)

Adelaide

- 304 Col. Sal. 125. 35 : f,g : -. Strain E 9102. (Medium 1, 37C)

Agona

- 1076 NZ isolate NHI 74/0834. 1,4,12 : f,g,s : -. (Medium 1, 37C)

Ahmadi

- 712 NZ isolate NHI 67/6850. 1,3,19 : d : 1,5. (Medium 1, 37C)

Albany

- 724 NZ isolate NHI 72/1880. 8,20 : z4,z24 : -. (Medium 1, 37C)

Amsterdam¹⁵⁺

- 3649 NZ isolate ER 97/1440. 3,15 :g,m,s : -. (Medium 1, 37C).

Amsterdam

- 3665 NZ isolate ER 90/1632. 3,15 :g,m,s : -. (Medium 1, 37C)

Anatum

- 305 NCTC 5779. 3,10 : e,h : 1,6. (Medium 1, 37C)
394 Col. Sal. 84. (NCTC 5785). 3,15 : e,h : 1,6. Strain C 2. (Anatum 15+, previously Newington). (Medium 1, 37C)
395 NZ isolate NHI 63/5802. 3,15 : e,h : 1,6. (Anatum 15+, previously Newington). (Medium 1, 37C)
941 CDC 378. (3),(15),34 : e,h : 1,6. (Anatum 34+, previously Minneapolis). (Medium 1, 37C)
1139 CDC 322 - 74 SC. 3,15 : 1,6. Lactose positive. (Anatum 15+, previously Newington). (Medium 1, 37C)

Archavaleta

- 307 NZ isolate I955. 4,5,12 : a : [1,7]. (Medium 1, 37C)

II Artis

- 309 NCTC 10253. 56 : b : -. (Medium 1, 37C)

Bareilly

- 312 Col. Sal. (NCTC 5745). 44. 6,7 : y : 1,5. Strain 3213 K. (Medium 1, 37C)
713 NZ isolate NHI 69/3746. 6,7 : y : 1,5. (Medium 1, 37C)

II Basel

- 313 NCTC 10310. 58 : 1,z13,z28 : 1,5. (Medium 1, 37C)

Bergen

- 314 NCTC 9798. 47 : i : e,n,z15. (Medium 1, 37C)

Bere	1032	NZ isolate NHI 74/2116. 47 : z ₄ ,z ₂₃ : z ₆ . (Medium 1, 37C)
Berkeley	315	NCTC 8260. 43 : a : 1,5. (Medium 1, 37C)
Berta	316	Col. Sal. 69. (NCTC 5770). 9,12 : f,g,t : -. (Medium 1, 37C)
II Betioky	317	NCTC 10311. 59 : k : (z). (Medium 1, 37C)
Blegdam	717	NCTC 5769. 9,12 : g,m,q : -. (Medium 1, 37C)
Blockley	470	NZ isolate NHI 66/1115. 6,8 : k : 1,5. (Medium 1, 37C)
Bonariensis	319	USA No. C 12. 6,8 : i : e,n,x. (Medium 1, 37C)
	716	NCTC 6481. 6,8 : i : e,n,x. (Medium 1, 37C)
Bovismorbificans	320	Col. Sal. 43. 6,8 : r : 1,5. (Medium 1, 37C)
	1070	NCTC 5754. 6,8 : r : 1,5. (Medium 1, 37C)
Braenderup	322	NZ isolate NHI 58/13327. 6,7 : e,h : e,n,z ₁₅ . (Medium 1, 37C)
	4085	CDC Strain H9812. 4,12 : e,h : e,n,z ₁₅ . PulseNet Universal size standard. (Medium 1, 37C).
Brandenburg	469	NZ isolate NHI 66/5140. 4,12 : l,v : e,n,z ₁₅ . (Medium 1, 37C)
	3684	NZ isolate ER 98/4135. Strain I989007. 4,12 : l,v : e,n,z ₁₅ . Ovine, NZ South Island. Outbreak strain. (Medium 1, 37C).
	4021	NZ isolate ER 00/413. NZ South Island strain. 4,12 : l,v : e,n,z ₁₅ . Sheepyard drinking water trough. (Medium 1, 37C).
	4024	NZ isolate ER 99/3463. NZ South Island strain. 4,12 : l,v : e,n,z ₁₅ . Seagull, Otatau. (Medium 1, 37C).
	4026	NZ isolate ER 99/4819. NZ South Island strain. 4,12 : l,v : e,n,z ₁₅ . Calf meat, South Island Meat Works. (Medium 1, 37C).
Bredeney	323	NCTC 5731. 1,4,12,27 : l,v : 1,7. Strain 1051. (Medium 1, 37C)
Budapest	324	4,12 : g,t : -. Deposited 1955, source unknown. (Medium 1, 37C)
II Bulawayo	921	CDC 541. 1,40 : z : 1,5. For 0 40a 40c. (Medium 1, 37C)
II Bunnik	922	CDC 800. 43 : z ₄₂ : [1,5,7]. (Medium 1, 37C)
Canoga	325	Col. Sal. 248. (NCTC 7899). (3),15,34 : g,s,t : -. (Medium 1, 37C)
Carrau	327	Col. Sal. 93. (NCTC 5794). 6,14,24 : y : 1,7. Strain 34. (Medium 1, 37C)
Cerro	328	Col. Sal. 100. (NCTC 5801). 18 : z ₄ ,z ₂₃ : [1,5]. Strain 415. (Medium 1, 37C)
	339	NCTC 5801. 18 : z ₄ ,z ₂₃ : [1,5]. (Medium 1, 37C)
	924	CDC 100. 18 : z ₄ ,z ₂₃ : (z ₄₅). For z ₄ ,z ₂₃ . (Medium 1, 37C)

1160	NZ isolate NHI 75/2499. 18 : z ₄ ,z ₂₃ : [1,5]. (Medium 1, 37C)
Champaign	
329	Col. Sal. 166. 39 : k : 1,5. (Medium 1, 37C)
340	Col. Sal. SC 859. 39 : z ₄₈ : 1,5. (Medium 1, 37C)
928	CDC 877,364.61. 39 : z ₄₈ : 1,5. For z ₄₈ . (Medium 1, 37C)
Chandans	
718	NCTC 7403. 11 : d : e,n,x. (Medium 1, 37C)
Chester	
330	Col. Sal. 17. (NCTC 5718). 4,[5],12 : e,h : e,n,x. (Medium 1, 37C)
331	NZ isolate 1962. 4,[5],12 : e,h : e,n,x. (Medium 1, 37C)
925	CDC 17. 4,[5],12 : e,h : e,n,x. For e,n,x,z ₁₇ . (Medium 1, 37C)
Chittagong	
332	Col. Sal. 225. (NCTC 7374). (1),3,10,(19) : b : z ₃₅ . (Medium 1, 37C)
Coleypark	
477	NZ isolate NHI 68/7286. 6,7 : a : 1,w. (Medium 1, 37C)
Cubana	
476	NZ isolate NHI 67/0480. 1,13,23 : z ₂₉ : [z ₃₇]. (Medium 1, 37C)
1178	CDC 3237-71. 1,13,23 : z ₂₉ : [z ₃₇]. Urea positive. (Medium 1, 37C)
1284	CDC 207. 1,13,23,37 : z ₂₉ : [z ₃₇]. (Medium 1, 37C)
Dahlem	
341	NCTC 9949. 48 : k : e.n.z ₁₅ . (Medium 1, 37C)
Dakar	
929	CDC 444. 28 : a : 1,6 for 0 28a, 28c. (Medium 1, 37C)
Il Dar-es-salaam	
343	Col. Sal. 72. (NCTC 5773). 1,9,12 : 1,w : e,n,x. (Medium 1, 37C)
1142	CDC 72. 1,9,12 : 1,w : e,n,x. (Medium 1, 37C)
Derby	
344	Col. Sal. 20. (NCTC 5721). 4,[5],12 : f,g : [1,2]. Strain 31 K. (Medium 1, 37C)
345	NZ isolate NHI 63/3437. 4,[5],12 : f,g : -. (Medium 1, 37C)
Dessau	
1223	NZ isolate NHI 76/2034. 3,15, (19) : g,s,t : -. H ₂ S -ve. (Medium 1, 37C)
Deversoir	
346	NCTC 9792. 45 : c : e,n,x. (Medium 1, 37C)
930	CDC 364. 45 : c : e,n,x. For 0 45 ₁ , 45 ₂ . (Medium 1, 37C)
Djakarta	
932	CDC 467. 48 : z ₄ ,z ₂₄ : -. For 0 48 ₁ , 48 ₃ . (Medium 1, 37C)
Dublin	
347	USA 215. 9,12,[Vi] : g,p : -. (Medium 1, 37C)
348	NZ isolate NHI 64/3744 (WARC). 9,12,[Vi] : g,p : -. (Medium 1, 37C)
349	Col. Sal. 65. 9,12,[Vi] : g,p : -. Strain LOW. (Medium 1, 37C)
Duesseldorf	
350	Col. Sal. 120. 6,8 : z ₄ ,z ₂₄ : -. (Medium 1, 37C)
Dugbe	
931	CDC 518. 45 : d : 1,6. For 0 45 ₁ , 45 ₃ . (Medium 1, 37C)
Duisburg	
946	CDC 266. PC 230. 4,12 : d,e,h : d,e,n,z ₁₅ . (Medium 1, 37C)

Emek	1085	NZ isolate NHI 72/3278. 8,20 : g,m,s : -. (Medium 1, 37C)
Essen	353	Col. Sal. 22. (NCTC 5723). 4,12 : g,m : -. Strain K 173. (Medium 1, 37C)
Fanti	708	Col. Sal. JT 1224. 13,23 : z ₃₈ : -. (Medium 1, 37C)
IV Flint	1144	NZ isolate NHI 75/2607. 50 : z ₄ ,z ₂₃ : -. (Medium 1, 37C)
Florida	933	CDC 162. C 1672. [1],6,14,[25] : d : 1,7. (Medium 1, 37C)
Gallinarum	354	USA. 9,12 : - : -. Strain 416. (Medium 1, 37C)
	414	NZ isolate 1955. 9,12 : - : -. (Medium 1, 37C)
	945	CDC 75. 971. 9,12 : - : -. (Medium 1, 37C)
Gaminara	355	Col. Sal. 96. (ATCC 8324, NCTC 5797). 16 : d : 1,7. Strain 974. (Medium 1, 37C)
	711	NZ isolate NHI 67/0990. 16 : d : 1,7. (Medium 1, 37C)
Give	356	NZ isolate NHI 65/4386. 3,10 : 1,v : 1,7. (Medium 1, 37C)
	725	RARC. 3,15 : 1,v : 1,7. (give 15+, previously Newbrunswick). (Medium 1, 37C)
Glostrup	357	Col. Sal. 56. (NCTC 5757). 6,8 : z ₁₀ : e,n,z ₁₅ . Strain K 4324. (Medium 1, 37C)
Gombe	999	NZ isolate NHI 74/0593. 6,7 : d : e,n,z ₁₅ . (Medium 1, 37C)
II Greenside	358	NCTC 9936. 50 : z : e,n,x. (Medium 1, 37C)
Grumpensis	709	Col. Sal. JT 191. 13,23 : d : 1,7. (Medium 1, 37C)
II Haarlem	359	NCTC 9906. 9,46 : z : e,n,x. (Medium 1, 37C)
Hadar	723	NZ isolate NHI 70/0943. 6,8 : z ₁₀ : e,n,x. (Medium 1, 37C)
Havana	478	NZ isolate NHI 70/0238. 1,13,23 : f,g,[s] : -. (Medium 1, 37C)
II Humber	363	NCTC 10078. 53 : z ₄ ,z ₂₄ : -. (Medium 1, 37C)
Heidelberg	3650	NZ isolate ER 98/2501. 4,5 : r : 1,2. (Medium 1, 37C).
Hindmarsh	3646	NZ isolate ER 98/3141. 8 : r : 1,5. (Medium 1, 37C).
Hvittingfoss	361	NZ isolate NHI 65/6611. 16 : b : e,n,x. (Medium 1, 37C)
	2497	NCTC 5796. 16 : b : e,n,x. (Medium 1, 37C)
Ibadan		

3651	NZ isolate ER 98/634. 13,22 : b : 1,5. (Medium 1, 37C).
Indiana	
1189	NZ isolate NHI 75/1935. 1,4,12 : z : 1,7. (Medium 1, 37C)
Infantis	
365	Col. Sal. SC 894. 6,7 : r : 1,5. (Medium 1, 37C)
706	NZ isolate NHI 65/10810. 6,7 : r : 1,5. (Medium 1, 37C)
934	CDC 906. 2784/61. 6,7 : z ₄₉ : r : 1,5. For z ₄₉ . (Medium 1, 37C)
Inverness	
366	Col. Sal. 145. (NCTC 6591). 38 : k : 1,6. (Medium 1, 37C)
Isangi	
1093	NZ isolate NHI 74/0032. 6,7 : d : 1,5. (Medium 1, 37C)
Java	
409	Col. Sal. 6. 4,[5],12 : b : 1,2. Strain 5706. (Medium 1, 37C)
1071	NZ isolate NHI 74/2076. 4,[5],12 : b : 1,2. (Medium 1, 37C)
Javiana	
367	Col. Sal. 157 (NII2). (NCTC 6496). 9,12 : 1,z ₂₈ : 1,5. (Medium 1, 37C)
368	NZ isolate NHI 61/5908. 9,12 : 1,z ₂₈ : 1,5. (Medium 1, 37C)
Kaolack	
369	NCTC 10214. 47 : z : 1,6. (Medium 1, 37C)
Kapemba	
370	USA. 9,12 : 1,v : 1,7. (Medium 1, 37C)
Karamoja	
371	NCTC 9958. 40 : z ₄₁ : 1,2. (Medium 1, 37C)
710	NZ isolate NHI 66/207. 40 : z ₄₁ : 1,2. (Medium 1, 37C)
Kentucky	
372	Col. Sal. 98. (NCTC 5799). 8,20 : i : z ₆ . Strain 21883. (Medium 1, 37C)
Kiambu	
3652	NZ isolate ER 90/2034. 4,5 : z : 1,5. (Medium 1, 37C).
Kimpese	
1203	NZ isolate NHI 75/2077. 9,12 : z : 1,6. (Medium 1, 37C)
Kingston	
4042	NZ isolate ER 01/3063. 4,12 : g,s,t :- . (Medium 1, 37C).
Kirkee	
373	Col. Sal. 97. (NCTC 5798). 17 : b : 1,2. (Medium 1, 37C)
Leeuwarden	
1075	NZ isolate NHI 73/2399. 11 : b : 1,5. (Medium 1, 37C)
Lexington	
364	USA 38260. 3,(15),(34) : z ₁₀ : 1,5. (Lexington 15+, 34+, previously Illinois). (Medium 1, 37C)
374	NZ isolate NHI 61/5711 A. 3,10 : z ₁₀ : 1,5. (Medium 1, 37C)
Lille	
375	NCTC 9885. 6,7 : z ₃₈ : -. (Medium 1, 37C)
Litchfield	
919	NZ isolate NHI 74/0395. 6,8 : 1,v : 1,2. (Medium 1, 37C)
Livingstone 14+	

1201	NZ isolate NHI 75/2347. 6,7 : d : l,w. (Medium 1, 37C)
II Locarno	
376	NCTC 10272. 57 : z ₂₉ : z ₄₂ . (Medium 1, 37C)
Loenga	
936	CDC 571. 42 : z ₁₀ : z ₆ . (Medium 1, 37C)
London ¹⁵⁺	
3666	NZ isolate ER 97/2918. 3,15 : l,v : 1,6. (Medium 1, 37C).
London	
377	Col. Sal. 76. (NCTC 5777). 3,10 : l,v : 1,6. Strain 1446. (Medium 1, 37C)
378	NCTC 5777. 3,10 : l,v : 1,6. (Medium 1, 37C)
Luciana	
720	NCTC 7105. ll : a : e,n,z ₁₅ . (Medium 1, 37C)
II Luton	
379	NCTC 10346. 60 : z : e,n,x. (Medium 1, 37C)
Madelia	
308	NZ isolate NHI 65/010288. 1,6,14,25 : y : 1,7. (Medium 1, 37C)
937	CDC 163 Minn 6ll. 1,6,14,25 : y : -. Phase 1. (Medium 1, 37C)
938	CDC 164 Minn 6ll-3015. 1,6,14,25 : - : 1,7. Phase 2. (Medium 1, 37C)
Manchester	
380	NZ isolate 1958. 6,8 : l,v : 1,7. (Medium 1, 37C)
Maricopa	
381	NCTC 10312. 1,42 : g,z ₅₁ : 1,5. (Medium 1, 37C)
Mbandaka	
3653	NZ isolate ER 98/457. 6,7 : z ₁₀ : e,n,z ₁₅ . (Medium 1, 37C).
Meleagridis	
382	NZ isolate 1966. 3,10 : e,h : l,w. (Medium 1, 37C)
Menston	
383	Col. Sal. 226. (NCTC 7836). 6,7 : g,s,t : [1,6]. (Medium 1, 37C)
Mikawasima	
384	Col. Sal. SC 855. 6,7 : - : - : z ₄₇ Phase III. (Medium 1, 37C)
385	Col. Sal. SC 944. 6,7 : - : - : z ₅₀ Phase III. (Medium 1, 37C)
386	USA. 6,7 : y : e,n,z ₁₅ . (Medium 1, 37C)
939	CDC 2212/59. 6,7 : y : e,n,z ₁₅ : z ₅₀ . (Medium 1, 37C)
Minnesota	
388	Col. Sal. 99. (NCTC 5800). 2l : b : e,n,x. Strain 2l. (Medium 1, 37C)
Mississippi	
310	Col. Sal. 250. 13,23 : b : -. (Medium 1, 37C)
387	NZ isolate. 1,13,23 : b : 1,5. (Medium 1, 37C)
942	CDC 154. 53. 1,13,23 : b : 1,5. (Medium 1, 37C)
943	CDC 2416-52. 13,23,36 : b : -. (Medium 1, 37C)
Montevideo	
389	Col. Sal. 46. (NCTC 5747). 6,7 : g,m,[p],s : -. Strain 623. (Medium 1, 37C)
693	NZ isolate NHI 70/2089. 6,7 : g,m,[p],s : -. (Medium 1, 37C)
Moscow	
390	NCTC 10480. 9,12 : g,q : -. (Medium 1, 37C)

Muenchen	
393	NZ isolate I963. 6,8 : d : 1,2. (Medium 1, 37C)
Muenster	
1073	NZ isolate NHI 74/3019. 3,10 : e,h : 1,5. (Medium 1, 37C)
1187	NCTC 5780. 3,10 : e,h : 1,5. (Medium 1, 37C)
Newport	
396	Col. Sal. 50. (NCTC 5751). 6,8 : e,h : 1,2. Strain 563. (Medium 1, 37C)
397	NZ isolate NHI 63/8845. 6,8 : e,h : 1,2. (Medium 1, 37C)
1140	CDC 1315 - 75. 6,8 : e,h : 1,2. Lactose positive. (Medium 1, 37C)
1179	CDC. 6,8 : - : 1,2 var. Puerto Rico. (Medium 1, 37C)
Niarembe	
392	Col. Sal. 308. 44 : a : 1,w. (Medium 1, 37C)
944	CDC 339. 44 : a : 1,w. (Medium 1, 37C)
Onderstepoort	
467	Col. Sal. 94. (NCTC 5795). 1,6,14,[25] : e,h : 1,5. Strain 282. (Medium 1, 37C)
Oranienburg	
399	USA. 6,7 : m,t : -. Strain 9087. (Medium 1, 37C)
400	NZ isolate NHI 63/6266. 6,7 : m,t : -. (Medium 1, 37C)
Orion	
401	NZ isolate I955. 3,10 : y : 1,5. (Medium 1, 37C)
Oslo	
402	NZ isolate NHI 64/3713. 6,7 : a : e,n,x. (Medium 1, 37C)
Pakistan	
3654	NZ isolate ER 97/1156. 8 : 1,v : 1,2. (Medium 1, 37C).
Panama	
403	USA. 9,12 : 1,v : 1,5. (Medium 1, 37C)
935	CDC 186. 9,12 : 1,v : 1,11. For 1,11. (Medium 1, 37C)
Papuana	
404	NZ isolate NHI 60/4294. 6,7 : r : e,n,z ₁₅ . (Medium 1, 37C)
Paratyphi A	Distribution restricted.
405	NCTC 5702. 1,2,12 : a : [1,5]. (Medium 1, 37C)
1074	NZ isolate NHI 74/2113. 1,2,12 : a : [1,5]. (Medium 1, 37C)
1180	NCTC 8387. 2,12 : a : -. Estimation of AH agglutination titre. var Durazzo. (Medium 1, 37C)
Paratyphi B	Distribution restricted.
410	UK. (NCTC 8390). 4,[5],12 : b : 1,2. Strain HB 3. Preparation of vaccine. (Medium 1, 37C)
411	NZ isolate I958. 4,[5],12 : b : -. Phase I. (Medium 1, 37C)
Paratyphi C	Distribution restricted.
1110	NCTC 96. 6,7,[Vi] : c : 1,5. (Medium 1, 37C)
Pensacola	
412	NZ isolate I957. 9,12 : m,t : -. (Medium 1, 37C)
Pomona	
472	NZ isolate NHI 65/10286. 28 : y : 1,7. (Medium 1, 37C)
Poona	
413	Col. Sal. 91. (NCTC 5792). 13,22 : z : 1,6 : [z ₅₉]. (Medium 1, 37C)
1068	NZ isolate NHI 74/2387. 13,22 : z : 1,6 : [z ₅₉]. (Medium 1, 37C)
Potsdam	

III7	NZ isolate NHI 75/1253. 6,7 : l,v : e,n,z ₁₅ . (Medium 1, 37C)
II Quimbamba	
1202	CDC 611. 47 : d : z ₃₉ . (Medium 1, 37C)
Quinhon	
415	NCTC 10076. 47 : z ₄₄ : -. (Medium 1, 37C)
Reading	
416	Col. Sal. 19. (NCTC 5720). 4,[5],12 : e,h : l,5. (Medium 1, 37C)
417	USA. 4,[5],12 : e,h : l,5. Strain 72. (Medium 1, 37C)
1143	NZ isolate NHI 76/0059. 4,[5],12 : e,h : l,5. (Medium 1, 37C)
Richmond	
975	NZ isolate NHI 76/2508. 6,7 : y : l,2. (Medium 1, 37C)
Riogrande	
418	Col. Sal. 209. 40 : b : l,5. (Medium 1, 37C)
Rissen	
3655	NZ isolate ER 91/2822. 6,7 : f,g : -. (Medium 1, 37C).
Rostock	
419	Col. Sal. 66. (NCTC 5767). 1,9,12 : g,p,u : -. (Medium 1, 37C)
Rubislaw	
420	USA. 11 : r : e.n.x. (Medium 1, 37C)
421	Col. Sal. 285. (NCTC 8497). 11 : r : -. Strain 410. Monophasic for the preparation of r antiserum. (Medium 1, 37C)
Rutgers	
422	NCTC. 9794. 3,10 : R1,z ₄₀ : l,7. (Medium 1, 37C)
Saintpaul	
423	NZ isolate 1955. 1,4,[5],12 : e,h : l,2. (Medium 1, 37C)
Salford	
3617	NZ isolate ER97/2450. 16 : l,v : e,n,x Environmental isolate referred from Lynfield Agricultural Centre, Auckland. (Medium 1, 37C)
Sandiego	
424	Col. Sal. 18. 4,[5],12 : e,h : e,n,z ₁₅ . Strain 1254. (Medium 1, 37C)
Sangera	
3667	NZ isolate ER 98/0776. 16 : b : e,n,z ₁₅ . (Medium 1, 37C).
Schleissheim	
425	Col. Sal. 31. (NCTC 5732). 4,12,27 : b : -. Strain Alpha 13. (Medium 1, 37C)
Schwarzengrund	
426	NZ isolate 1966. 1,4,12,27 : d : l,7. (Medium 1, 37C)
Selandia	
722	NCTC 5786. 3,15 : e,h : l,7. (Medium 1, 37C)
Sendai	
471	Distribution restricted. NZ isolate NHI 64/1721. 1,9,12 : a : l,5. (Medium 1, 37C)
Senftenberg	
427	Col. Sal. 87. (NCTC 5788). 1,3,19 : g,[s],t : -. Strain 3007. (Medium 1, 37C)
428	NZ isolate 1955 (RARC). 1,3,19 : g,[s],t : -. (Medium 1, 37C)
429	NCTC 10079. 1,3,19 : g,[s],t : z ₄₅ . (Medium 1, 37C)
430	NCTC 10081. 1,3,19 : g,[s],t : z ₄₆ . (Medium 1, 37C)

432	Col. Sal. 122. 1,3,19 : - : z ₂₇ . (Medium 1, 37C)
947	CDC 87. 1,3,19 : - : -. (Medium 1, 37C)
948	CDC 735. 1,3,19 : g,[s],t : z ₄₃ . (Medium 1, 37C)
949	CDC 2282. 58. 1,3,19 : g,[s],t : z ₄₅ . (Medium 1, 37C)
950	CDC 840. 59.1,3,19 : g,[s],t : z ₄₆ . (Medium 1, 37C)
Singapore	
705	NZ isolate NHI 70/0551. 6,7 : k : e,n,x. (Medium 1, 37C)
II Springs	
433	NCTC 9854. 40 : a : z ₃₉ . (Medium 1, 37C)
Stanley	
434	Col. Sal. 15. (NCTC 5716). 4,[5],12,27 : d : 1,2. Strain 7855 K. (Medium 1, 37C)
479	NZ isolate NHI 70/1901. 4,[5],12,27 : d : 1,2. (Medium 1, 37C)
Sternschanze	
951	CDC 1377. 30 : g,s,t : [z ₅₉]. (Medium 1, 37C)
Tallahassee	
435	Col. Sal. 249. (NCTC 7893). 6,8 : z ₄ ,z ₃₂ : -. (Medium 1, 37C)
952	CDC 196. 6,8 : z ₄ ,z ₃₂ : -. (Medium 1, 37C)
Telaviv	
436	Col. Sal. 106. (NCTC 6020). 28 : y : e,n,z ₁₅ . (Medium 1, 37C)
Tennessee	
437	Col. Sal. 119. (NCTC 6388). 6,7 : z ₂₉ : [1,2,7]. Strain Kl. (Medium 1, 37C)
707	NZ isolate NHI 68/8451. 6,7 : z ₂₉ : [1,2,7]. (Medium 1, 37C)
1137	CDC 1529 - 74 SC. 6,7 : z ₂₉ : [1,2,7]. Lactose positive, Sucrose positive. (Medium 1, 37C)
Thompson	
438	USA 94368. 6,7 : k : 1,5. (Medium 1, 37C)
439	Col. Sal. 40. (NCTC 5741). 6,7 : - : 1,5. var Berlin. (Medium 1, 37C)
923	CDC 167. 6,7 : k : 1,10. For 1,10. (Medium 1, 37C)
998	NZ isolate NHI 74/1251. 6,7 : k : 1,5. (Medium 1, 37C)
II Tokai	
953	CDC 1182. 57 : z ₄₂ : 1,6 : z ₅₃ . (Medium 1, 37C)
II Tranoroa	
440	NCTC 10252. 55 : k : z ₃₉ . (Medium 1, 37C)
Treforest	
441	NCTC 10075. 51 : z : 1,6. (Medium 1, 37C)
II Tulear	
954	CDC 978. 6,8 : a : z ₅₂ . (Medium 1, 37C)
Uccle	
454	NCTC 10251. 3,54 : g,s,t : -. (Medium 1, 37C)
Uganda	
455	Col. Sal. 101. (NCTC 6015). 3,10 : 1,z ₁₃ : 1,5. (Medium 1, 37C)
Urbana	
456	Col. Sal. 124. 30 : b : e,n,x. (Medium 1, 37C)
Utrecht	
457	NCTC 10077. 52 : d : 1,5. (Medium 1, 37C)
Victoria	
458	NZ isolate NHI 56/382. 9,12 : 1,w : 1,5. (Medium 1, 37C)

Virchow

- 459 NZ isolate NHI 65/5492. 6,7 : r : 1,2. (Medium 1, 37C)
2498 NCTC 5742. 6,7 : r : 1,2,3. (Medium 1, 37C)

Virginia	460	NCTC 6947. 8 : d : 1,2. (Medium 1, 37C)
Wangata	461	NCTC 8276. 9,12 : z4,z23 : [1,7]. (Medium 1, 37C)
Warragul	695	NZ isolate NHI 71/0781. 1,6,14,25 : g,m : -. (Medium 1, 37C)
IV Wassenaar	956	CDC 866. 50 : g,z51 : -. (Medium 1, 37C)
Waycross	462	Col. Sal. 21I. (NCTC 740I). 4I : z4,z23 : -. (Medium 1, 37C)
Wayne	957	CDC 814. 30 : g,z51 : -. (Medium 1, 37C)
Wein	3657	NZ isolate ER 97/1136. 4,12 : b : 1,w. (Medium 1, 37C).
Weltevreden	463	NZ isolate I955. 3,10 : r : z6. (Medium 1, 37C)
Weslaco	464	Col. Sal. 22I. (NCTC 741I). 42 : z36 : -. (Medium 1, 37C)
Westerstede	475	NZ isolate NHI 67/13760. 1,3,19 : 1,z13 : [1,2]. (Medium 1, 37C)
Wichita	465	NCTC 6019. 1,13,23 : d : [1,6] : [z37]. (Medium 1, 37C)
Worthington	473	NCTC 994I. 1,13,23 : z : 1,w. (Medium 1, 37C)
	704	NZ isolate NHI 71/1528. 1,13,23 : z : 1,w. (Medium 1, 37C)
<i>Salmonella</i> sp.	958	CDC 875. 6370/60. 6,8 : e,h : 1,12. (Medium 1, 37C)
	4030	NZ isolate ER 00/5608. Serotype 6,7 :- :(non motile). (Medium 1, 37C).

Also held in the Collection are *Salmonella* strains for the production of antisera, *Salmonella* Enteritidis, *Salmonella* Hadar, *Salmonella* Typhi and *Salmonella* Typhimurium phage typing strains.

Serratia liquefaciens (Grimes and Hennerty) Bascomb et al.

861	CDC 1869-59. (Medium 1, 37C)
1175	CDC 1912-57. (Medium 1, 37C)
2585 ^T	ATCC 27592. (DSM 4487, NCIMB 12815). Type strain. Produces follicle stimulating hormone (FSH) binding inhibitor. Milk. (Medium 1, 37C)

Serratia marcescens subsp. *marcescens* Bizio

1188 ^T	NCTC 1021I. (ATCC 13880, DSM 30121, NCIB 9155). Type strain. Production of L-asparaginase and follicle stimulating hormone (FSH) binding inhibitor. Pond water. (Medium 1, 37C)
2844	Strain Delft 137, from Colindale Central Public Health Laboratory (ATCC 274, NCIB 1377, NCTC 1377). Producer strain in <i>Serratia marcescens</i> bacteriocin typing set. (Medium 1, 37C)
2854	Strain K5 from Colindale Central Public Health Laboratory. (ATCC 4002, NCIB 2847, NCTC 2847). Producer strain in <i>Serratia marcescens</i> bacteriocin typing set. Gut of ape, India. (Medium 1, 37C)
3504	ATCC 8100. (CIP 104221). Strain NR Smith NRS 116-175 Non-pigmented. (Medium 1, 37C)
3505	ATCC 43861. API System/bio Merieux LRA 13.05.73. (Medium 1, 37C)

Also held in the Collection is a set of *Serratia marcescens* bacteriocin typing strains.

Serratia odorifera Grimont et al.

3229^T ATCC 33077. (CDC 1979-77, DSM 4582, NCTC 11214). **Type strain.** Sputum.
(Medium 1, 37C)

Serratia plymuthica (Lehmann and Neumann) Breed et al.

2860 Strain Parker from Colindale Central Public Health Laboratory. Indicator strain in *Serratia marcescens* bacteriocin testing set. Canal water. (Medium 1, 37C)

Serratia rubidaea (Stapp) Ewing et al.

1174^T CDC 2199-72. (ATCC 27593, DSM 4480). **Type strain.** (Medium 1, 37C)

Shewanella putrefaciens (Lee et al.) MacDonell and Colwell

Basonym: *Alteromonas putrefaciens*

825 CDC B5944. Biotype 1. (Medium 1, 37C)

3404 ATCC 49138. AmMS 201. Quality control of Microscan® panels. Clinical isolate.
(Medium 1, 37C)

Shigella boydii Ewing

965 NCTC 9327. Serotype 1. (Medium 1, 37C)
966 NCTC 9328. Serotype 2. (Medium 1, 37C)
967 NCTC 9329. Serotype 3. (Medium 1, 37C)
968 NCTC 9330. Serotype 4. (Medium 1, 37C)
969 NCTC 9331. Serotype 5. (Medium 1, 37C)
970 NCTC 9332. Serotype 6. (Medium 1, 37C)
971 NCTC 9333. Serotype 7. (Medium 1, 37C)
2611 NCTC 8576. Serotype 8. (Medium 1, 37C)
2612 NCTC 9355. Serotype 9. (Medium 1, 37C)
2613 NCTC 9357. Serotype 10. (Medium 1, 37C)
2614 NCTC 9321. Serotype 11. (Medium 1, 37C)
2615 NCTC 9772. Serotype 12. (Medium 1, 37C)
2616 NCTC 9361. Serotype 13. (Medium 1, 37C)
2617 NCTC 8592. Serotype 14. (Medium 1, 37C)
2618 NCTC 8590. Serotype 15. Mannitol negative. (Medium 1, 37C)
3562 ATCC 35964. Serotype 16. (Medium 1, 37C)
3563 ATCC 35965. Serotype 17. (Medium 1, 37C)
3564 ATCC 35966. Serotype 18. (Medium 1, 37C)

Shigella dysenteriae (Shiga) Castellani and Chalmers

79 NCTC 8218. Serotype 2. (Medium 1, 37C)
139 NZ isolate NHI 63/7169. Serotype 2. (Medium 1, 37C)
1015^T NCTC 4837. (ATCC 13313). Strain Newcastle. Serotype 1. **Type strain.**
Distribution restricted. (Medium 1, 37C)
2507 NCTC 6340. Serotype 3. (Medium 1, 37C)
2508 NCTC 9759. Serotype 4. (Medium 1, 37C)
2509 NCTC 9721. Serotype 5. (Medium 1, 37C)
2510 NCTC 9762. Serotype 6. (Medium 1, 37C)
2511 NCTC 9763. Serotype 7. (Medium 1, 37C)
2512 NCTC 8599. Serotype 8. (Medium 1, 37C)
2513 NCTC 9347. Serotype 9. (Medium 1, 37C)
2514 NCTC 9351. Serotype 10. (Medium 1, 37C)

Shigella flexneri Castellani and Chalmers

80 NCTC 8192. Serotype 1a. (Medium 1, 37C)
127 NZ isolate NHI 63/6807. Serotype 6. (Medium 1, 37C)
136 NZ isolate NHI 63/10267. Serotype 2a. (Medium 1, 37C)
137 NZ isolate NHI 63/10271. Serotype 3a. (Medium 1, 37C)
300 NCTC 8296. Serotype 4a. (Medium 1, 37C)
866 NCTC 9729. Serotype 6. (Medium 1, 37C)
972 NCTC 5. Serotype 1b. (Medium 1, 37C)
973 NCTC 4. Serotype 2b. (Medium 1, 37C)

- 974 NCTC 7. Serotype 3a. (Medium 1, 37C)
 976 NCTC 8336. Serotype 4b. (Medium 1, 37C)
 977 NCTC 8523. Serotype 5a. (Medium 1, 37C)
 983 NCTC 1. Serotype 2a. (Medium 1, 37C)
 1016 NCTC 4720. Serotype 6, Manchester variety. (Medium 1, 37C)
 1017 NCTC 9780. Serotype 6, Newcastle variety, Mannitol negative. (Medium 1, 37C)
 1018 NCTC 8525. Serotype 6, Boyd 88 variety, Dulcitol positive, anaerogenic. (Medium 1, 37C)
 1019 NCTC 2. Serotype X. (Medium 1, 37C)
 1020 NCTC 8597. Serotype Y. (Medium 1, 37C)
 1181 CDC 2852 - 75. Serotype 1a, Antiserum production. (Medium 1, 37C)
 1182 CDC 2384 - 75. Serotype 1b, Antiserum production. (Medium 1, 37C)
 1183 CDC 2930 - 71. Serotype 2a, Antiserum production. (Medium 1, 37C)
 1185 CDC 731 - 75. Serotype 3b, Antiserum production. (Medium 1, 37C)
 1186 CDC 6063 - 72. Serotype 3c, Antiserum production. (Medium 1, 37C)
 3476 ATCC 12022. (CDC 3591-52, NCTC 12698). Serotype 2b. Media quality control strain (NCCLS M22-A2). (Medium 1, 37C)

Shigella sonnei (Levine) Weldin

- 86 NCTC 8220. (Medium 1, 37C)
 140 NZ isolate NHI 63/3545. (Medium 1, 37C)
 2728 ATCC 29029. (CDC 4382-74). (Medium 1, 37C)
 3227 ATCC 9290. Media quality control strain (NCCLS M22-A2). (Medium 1, 37C)
 4087 CDC strain F2353. PulseNet Universal size standard. (Medium 1, 37C)

Also held in the Collection is a set of *Shigella sonnei* colicine typing strains.

Sphingobacterium heparinum see *Pedobacter heparinus*

Sphingobacterium multivorum (Holmes et al.) Yabuuchi et al.

Basonym: *Flavobacterium multivorum*

- 1228 NZ isolate NHI 75/1026. (CDC 75-079538). Cerebrospinal fluid. (Medium 1, 37C)

Sphingobacterium spiritivorum (Holmes et al.) Yabuuchi et al.

Basonym: *Flavobacterium spiritivorum*

- 2645 NZ isolate NHI 79/1314. (ATCC 33860, CDC E6209). Int J Syst Bacteriol 1982; **32**: 157-65. Bone marrow, femur. (Medium 1, 37C)

Sphingomonas paucimobilis (Holmes et al.) Yabuuchi et al.

Basonym: *Pseudomonas paucimobilis*

- 1230 NZ isolate NHI 75/1250. (CDC 75080574). CDC group IIk-type 1. Eye of neonate, vagina of mother. (Medium 1, 37C)

Staphylococcus aureus subsp. *aureus* Rosenbach

- 87 NCTC 6571. (ATCC 9144, DSM 683, NCIB 6571). Heatley Oxford strain. Coagulase test, suitable weak positive strain. Antibiotic assay and sensitivity test organism. (Medium 1, 37C)
 103 NZ isolate NHI 58/1639. From food poisoning incident. (Medium 1, 37C)
 147 ATCC 6538. (DSM 799, NCIB 9518, NCTC 10788). Strain FDA 209 Germicide testing (AOAC Method). Assay of antimicrobial preservatives. Assay of cephalixin, cephaloglycin, cephaloridine, cephalothin. Used in preservative testing of parenteral and ophthalmic preparations. Human lesion. (Medium 1, 37C)
 195 Professor Shinefield, USA. (ATCC 27217, NCTC 10804). Strain 502 A Shinefield strain. Bacterial interference in treating staphylococcal disease. Penicillin sensitive. Nose. (Medium 1, 37C)
 297 NCTC 7447. (ATCC 6538P, DSM 346, FDA 209P, NCIB 8625, PCI 1209). Antibiotic assay. Sterility testing. (Medium 1, 37C)
 803 RARC. Suitable for CAMP test. (Medium 1, 37C)
 865 NCTC 8530. (ATCC 12598, DSM 20372). Serotype 1 (Cowan). Protein A producer. Septic arthritis. (Medium 1, 37C)

- 917 CDC F-1. (ATCC 25923, DSM 1104, NCIMB 12702). Seattle strain. Recommended reference strain for aerobic antimicrobial susceptibility testing. (NCCLS M2-A6). Media quality control strain (NCCLS M22-A2). CAMP test organism for *Listeria monocytogenes*. Clinical isolate. (Medium 1, 37C)
- 995 NCTC 4163. (NCIMB 11832). Disinfectant testing. (Medium 1, 37C)
- 1056 SRL 62.537. Methicillin resistant, MIC \geq 128 mg/L (without salt), oxacillin MIC $64 \geq$ 128 mg/L. (Medium 1, 37C)
- 1057 SRL 68.2162. Methicillin resistant. (Medium 1, 37C)
- 1058 SRL 66.7256. Methicillin resistant. (Medium 1, 37C)
- 1059 SRL 66.3711. Methicillin resistant. (Medium 1, 37C)
- 1060 SRL 67.10271. Methicillin resistant. (Medium 1, 37C)
- 1061 SRL 67.2445. Methicillin resistant. (Medium 1, 37C)
- 1258 NCTC 10345. CN 56 Wood 46 pl. -. Clumping factor negative variant. Does not contain protein A. (Medium 1, 37C)
- 2016 Central Veterinary Laboratory, Weybridge, England. Bovine strain. Egg yolk reaction negative. (Medium 1, 37C)
- 2200 ATCC 29608. MB 2786. Assay of cefoxitin. (Medium 1, 37C)
- 2243 ATCC 29213. (DSM 2569). Recommended reference strain for aerobic dilution antimicrobial susceptibility testing. (NCCLS M7-A4). Beta-lactamase weak positive. Wound. (Medium 1, 37C)
- 2261 ATCC 13150. FDA strain PCI 1241. Antibiotic sensitivity disc testing. Faeces. (Medium 1, 37C)
- 2307 Dr J E Johnson, USA. Lafferty strain. Study of teichoic acid antibodies. (Medium 1, 37C)
- 2566 Colindale 78/5620. Protein A positive. Used for coagglutination studies. (Medium 1, 37C)
- 2729 Prof S Nade, Nedlands, W Australia. Research in osteomyelitis. Phage type 6/42E/53/77/83A/84. (Medium 1, 37C)
- 2765 NCTC 11561. Beecham Research Labs No. 1555. Beta-lactamase producing, for control testing of augmentin. MIC (mg/L) amoxicillin/clavulanic acid 2.0/1.0. (Medium 1, 37C)
- 3022 NCTC 7428. (ATCC 49444, CIP 5710, CN 2404). Strain S32a. Produces pure beta-toxins. CAMP reaction for *Streptococcus agalactiae* and *Listeria monocytogenes*. (Medium 1, 37C)
- 3249 ATCC 33862. Media quality control strain (NCCLS M22-A2). (Medium 1, 37C)
- 3302 NZ isolate AS89/103. MIC methicillin 4 mg/L. Oxacillin microbroth = 4 mg/L. Borderline oxacillin-resistant *S. aureus* (BORSA). Ulcer. (Medium 1, 37C)
- 3372 ATCC 8095. Potent enterotoxin producer. Cream pie. (Medium 1, 37C)
- 3373 ATCC 8096. Poor enterotoxin producer. Furuncle. (Medium 1, 37C)
- 3374 ATCC 13565. Staphylococcal enterotoxin (STE) A producer. Ham. (Medium 1, 37C)
- 3375 ATCC 14458. Staphylococcal enterotoxin (STE) B producer. Faeces. (Medium 1, 37C)
- 3376 ATCC 19095. Staphylococcal enterotoxin (STE) C producer. Abscess. (Medium 1, 37C)
- 3377 ATCC 27664. Staphylococcal enterotoxin (STE) E producer. Chicken tetrazzini. (Medium 1, 37C)
- 3388 NZ isolate ST 91/635. MIC methicillin 4 mg/L. Oxacillin microbroth = 1 mg/L. Borderline oxacillin-resistant *S. aureus* (BORSA). Ulcer. (Medium 1, 37C)
- 3409 NZ isolate ST 92/491. (AS 92/456). Methicillin MIC 8 mg/L, 32 mg/L (with salt); oxacillin MIC 8 mg/L. Nose. (Medium 1, 37C)
- 3415 ATCC 49476. AmMS 241. Quality control of Microscan® panels. (Medium 1, 37C)
- 3442 NZ isolate ST92/279. (AS92/204). CHWH1 strain. Methicillin MIC 2 mg/L, 4 mg/L (with salt); oxacillin MIC 16 mg/L, Mec probe positive. Nose. (Medium 1, 37C)
- 3478 NZ isolate ST94/477. (AS 94/381). Oxacillin microbroth \geq 128 mg/L. Wound. (Medium 1, 37C)
- 3529 ATCC 43300. C Thornsberry F-182. Methicillin resistant (NCCLS). Clinical isolate. (Medium 1, 37C)
- 3534 NZ isolate MR 96/267. MRSA WSPP1 strain. MIC oxacillin 32 mg/L. Axilla. (Medium 1, 37C)
- 3535 NZ isolate MR 96/270. MRSA. WSPP2 strain. MIC oxacillin 32 mg/L. Eye. (Medium 1, 37C)
- 3673 NZ isolate AS 92/0349. Mupirocin resistant, MIC $>$ 1024 mg/L. Wound. (Medium 1, 37C)
- 3969 NZ isolate ST 99/1558. MRSA, mannitol negative. Neonate nasal infection. Small outbreak. (Medium 1, 37C)
- 4039 NZ isolate MR 00/203. Oxacillin MIC 8mg/L. Mec probe negative. Nose. (Medium 1, 37C)
- 4055 NCTC 10442, from TCS Biosciences MM37. MRSA. (Medium 1, 37C)

- 4058 NZ isolate MR 00/530. MRSA, strain WGWH1. Oxacillin >256mg/L (E test); cotrimoxazole 16mg/L (E test), 4mg/L (agar dilution); tetracycline 64mg/L (E test), 16mg/L (agar dilution). (Medium 1, 37C).

Also held in the Collection are *Staphylococcus aureus* phage typing strains, and plasmid reference strains.

Staphylococcus auricularis Kloos and Schleifer

- 3085^T ATCC 33753. (DSM 20609, NCTC 12101). **Type strain.** External auditory meatus. (Medium 1, 37C)

Staphylococcus capitis subsp. *capitis* Kloos and Schleifer

- 2202^T ATCC 27840. (DSM 20326, NCTC 11045). **Type strain.** Human skin. (Medium 1, 37C)

Staphylococcus cohnii subsp. *cohnii* Schleifer and Kloos

- 2211^T DSM 20260. (ATCC 29974). **Type strain.** Human skin. (Medium 1, 37C)

Staphylococcus epidermidis (Winslow and Winslow) Evans

- 1210 ATCC 12228. (DSM 1798, NCIMB 8853). FDA strain PCI 1200. Antibiotic assays, standardisation of antibiotic discs. Media quality control strain (NCCLS M22-A2). (Medium 1, 37C)
- 2205^T ATCC 14990. (DSM 20044, NCIMB 12721, NCTC 11047). **Type strain.** Nose. (Medium 1, 37C)
- 2230 CDC S-59. Control strain for evaluation of modified Thayer Martin medium. (Medium 1, 37C)
- 3253 C Sissons, Dental Research Unit, Wellington. Strain 16I. Ureolytic, from artificial dental plaque. Archs Oral Biol 1988; **33**: 727-33. (Medium 1, 37C)
- 3410 ATCC 49134. AmMS 205. Clinical isolate. Quality control of Microscan® panels. (Medium 1, 37C)

Also held in the Collection are *Staphylococcus epidermidis* phage typing strains.

Staphylococcus felis Igimi et al.

- 3477 PNAL 93/21525. Cat conjunctivitis. (Medium 1, 37C)

Staphylococcus haemolyticus Schleifer and Kloos

- 2210^T DSM 20263. (ATCC 29970, NCTC 11042). **Type strain.** Human skin. (Medium 1, 37C)

Staphylococcus hominis subsp. *hominis* Kloos and Schleifer emend. Kloos et al.

- 2203^T ATCC 27844. (DSM 20328, NCTC 11320). **Type strain.** Human skin. (Medium 1, 37C)

Staphylococcus intermedius Hajek

- 2213^T NCTC 11048. (ATCC 29663, DSM 20373). **Type strain.** Pigeon nares. (Medium 1, 37C)

Staphylococcus lugdunensis Freney et al.

- 3078 NZ isolate NHI ST 87/1001. (Institut Pasteur de Lyon 890175). Skin lesions. (Medium 1, 37C)

Staphylococcus saprophyticus subsp. *saprophyticus* (Fairbrother) Shaw et al.

- 1010^T NCTC 7292. (ATCC 15305, DSM 20229, NCIB 8711). **Type strain.** Urine. (Medium 1, 37C)

Staphylococcus schleiferi subsp. *schleiferi* Freney et al.

- 3079 NZ isolate NHI ST 87/1493. (Institut Pasteur de Lyon 890174). Wound. (Medium 1, 37C)
- 3080 NZ isolate NHI SB 89/0171. (Institut Pasteur de Lyon 890173). Skin graft. (Medium 1, 37C)

Staphylococcus sciuri subsp. *sciuri* Kloos et al. emend Kloos et al.

- 3086 ATCC 29060. Rapid ID system control. Human skin. (Medium 1, 37C)
 3179 NZ isolate NHI SB 89/0087. (Institut Pasteur de Lyon 890171). Urethral discharge.
 Comment - Methicillin-resistant, gave positive reaction with three latex kits for *S. aureus*.
 (Medium 1, 37C)
 3180 NZ isolate NHI SB 89/0198. (Institut Pasteur de Lyon 890172). Colonised skin. Comment -
 Methicillin-resistant, gave positive reaction with three latex kits for *S. aureus*.
 (Medium 1, 37C)

Staphylococcus simulans Kloos and Schleifer

- 2204^T ATCC 27848. (DSM 20322, NCTC 11046). **Type strain**. Human skin. (Medium 1, 37C)

Staphylococcus sp.

- 3378 ATCC 23235. Staphylococcal enterotoxin (STE) D producer. Turkey salad.
 (Medium 1, 37C)

Staphylococcus warneri Kloos and Schleifer

- 2201^T ATCC 27836. (DSM 20316, NCTC 11044). **Type strain**. Human skin. (Medium 1, 37C)

Staphylococcus xylosus Schleifer and Kloos

- 2209^T DSM 20266. (ATCC 29971, NCTC 11043). **Type strain**. Human skin. (Medium 1, 37C)

Stenotrophomonas maltophilia (Hugh) Palleroni and Bradbury

Basonym: *Xanthomonas maltophilia*

Basonym: *Pseudomonas maltophilia*

- 824 CDC B7057. (Medium 1, 37C)
 3507^T ATCC 13637. (DSM 50170, NCIB 9203, NCTC 10257). Strain R Hugh 810-2. **Type strain**.
 Characterisation. Oropharyngeal region of patient with mouth cancer. (Medium 1, 37C)

Stomatococcus mucilaginosus see *Rothia mucilaginosus**Streptococcus agalactiae* Lehmann and Neumann

- 88 NCTC 6175. (Medium 2, 37C)
 908 NCDC SS 615. Type Ia. Preparation and testing of group B streptococcal typing sera.
 (Medium 2, 37C)
 909 NCDC SS 618. Type Ib. Preparation and testing of group B streptococcal typing sera.
 (Medium 2, 37C)
 910 NCDC SS 700. Type Ic. Testing of group B streptococcal typing sera. (Medium 2, 37C)
 911 NCDC SS 619. Type II. Preparation and testing of group B streptococcal typing serum.
 (Medium 2, 37C)
 912 NCDC SS 620. Type III. Preparation and testing of group B streptococcal typing serum.
 (Medium 2, 37C)
 913 NCDC SS 617. Preparation of group B streptococcal grouping antiserum. (Medium 2, 37C)
 961 RARC. Bovine strain, non-haemolytic. Camp test positive control. (Medium 2, 37C)
 2216 Prague 24/60. Serotype X. From Institute of Hygiene and Epidemiology, Prague.
 (Medium 2, 37C)
 2217 Prague 25/60. Serotype R. From Institute of Hygiene and Epidemiology, Prague.
 (Medium 2, 37C)
 2267^T NCTC 8181. (ATCC 13813, DSM 2134). **Type strain**. Non-haemolytic. (Medium 2, 37C)
 2721 ATCC 27956. (DSM 6784). Control strain for mastitis screening. Bovine udder infection.
 (Medium 2, 37C)
 2830 Prague 13/63. Type III '6313' Jelinkova. Immunising strain. (Medium 2, 37C)
 2831 Prague 4/70. Type III 'D136C' Lancefield. Immunising strain. (Medium 2, 37C)
 2832 Prague 1/82. Type IV '3139' Rabinowitz. Immunising strain. (Medium 2, 37C)
 2833 Prague 10/84. Type V Provisional type. NTI '1169' Wilkinson. Immunising strain.
 (Medium 2, 37C)
 2834 Prague No. 118754. (Provisional type candidate). NT6 'SS1214' Wilkinson. Immunising strain.
 (Medium 2, 37C)
 3250 ATCC 12386. Media quality control strain (NCCLS M22-A2). R Lancefield grouping strain
 090R. (Medium 2, 37C)

- Streptococcus anginosus* Andrewes and Horder emend. Whiley and Beighton
90 NCTC 8037. Strain MG. Used in the diagnosis of "virus" pneumonia. (Medium 2, 37C)
- Streptococcus bovis* Orla-Jensen
1234 NCTC 8133. Type 2. Strain BR7. Infant faeces. (Medium 2, 37C)
2720^T ATCC 33317. (DSM 20480, NCDO 597, NCTC 8177). **Type strain**. Pearl II. Type I. Cow dung. (Medium 2, 37C)
3402 ATCC 49147. AmMS 119. Quality control of Microscan® panels. Clinical isolate. (Medium 2, 37C)
3412 ATCC 49133. AmMS 207. Quality control of Microscan® panels. Type II. Clinical isolate. (Medium 2, 37C)
3414 ATCC 49475. AmMS 236. Quality control of Microscan® panels. Clinical isolate. (Medium 2, 37C)
- Streptococcus casseliflavus* see *Enterococcus casseliflavus*
- Streptococcus defectivus* see *Abiotrophia defectiva*.
- Streptococcus dysgalactiae* subsp. *dysgalactiae* Garvie et al. emend. Vieira et al.
2268 NCTC 4335. Stableforth type IIb. Strain N35. Serological group C. Mastitis. (Medium 2, 37C)
- Streptococcus dysgalactiae* subsp. *equisimilis* Vandamme et al. emend Vieira et al.
94 NCTC 8543. (ATCC 35666, DSM 6176). Chestle strain. Preparation of group C antiserum. (*Streptococcus equisimilis*). Vagina. (Medium 2, 37C)
914 NCDC SS 957. Testing of group B streptococcal Type III antiserum. (*Streptococcus equisimilis*). (Medium 2, 37C)
2722 ATCC 9542. Strain A C Evans 1180. (*Streptococcus equisimilis*). (Medium 2, 37C)
- Streptococcus equi* subsp. *equi* Sand and Jensen
2269^T NCTC 9682. (ATCC 33398, DSM 20561). **Type strain**. Strain C15. (Medium 2, 37C)
- Streptococcus equi* subsp. *zooepidemicus* Farrow and Collins
2270 NCTC 6176. Strain Loewenthal M. Mouse septicaemia. (Medium 2, 37C)
- Streptococcus equinus* Andrewes and Horder
2265 NCTC 10386. Strain TR 5. Horse faeces. (Medium 2, 37C)
- Streptococcus faecalis* see *Enterococcus faecalis*
- Streptococcus faecium* see *Enterococcus faecium*
- Streptococcus intermedius* Prevot emend. Whiley and Beighton
2391 ATCC 27335. (DSM 20573, VPI 3372A). (Medium 4 and/or 9, 37C, anaerobic)
- Streptococcus lactis* see *Lactococcus lactis* subsp. *lactis*
- Streptococcus* MG see *Streptococcus anginosus* NZRM 90
- "*Streptococcus milleri*" Guthof
1237 NCTC 10708. Strain 7331. (Medium 2, 37C)
3299 University Hospital, Queen Medical Centre, Nottingham, UK. Strain J17. Penicillin tolerant. MBC/MIC Ratio > 4,000. Blood. (Medium 2, 37C)
- Streptococcus mitis* Andrewes and Horder
2989 ATCC 9811. J M Sherman M7A. Quality control. Alpha-haemolytic. (Medium 2, 37C)
3298 University Hospital, Queen Medical Centre, Nottingham, UK. Strain J14. Penicillin tolerant. MBC/MIC Ratio > 1024. Sputum. (Medium 2, 37C)

Streptococcus mutans Clarke

- 985 Strain AHT Fitzgerald. (Received from Dental Research NZ). (Medium 2, 37C)
 986 Strain KIR Fitzgerald. (Received from Dental Research NZ). (Medium 2, 37C)
 987^T NCTC 10449. (ATCC 25175, DSM 20523). **Type strain**. (Received from Dental Research NZ). Carious dentine. (Medium 2, 37C)
 3362 PHLS Centre for Applied Microbiology and Research, Porton Down, UK. Strain R9. (Medium 2, 37C)

Streptococcus oralis Bridge and Sneath

- 3365 PHLS Centre for Applied Microbiology and Research, Porton Down, UK. Strain EF186. (Medium 2, 37C)

Streptococcus pneumoniae (Klein) Chester

- 100^T NCTC 7465. (ATCC 33400, DSM 20566). **Type strain**. Type 1. (Medium 2, 37C)
 101 NCTC 7466. Type 2. (Medium 2, 37C)
 102 NCTC 7978. Type 3. (Medium 2, 37C)
 2725 ATCC 9163. Type 1. Smooth phase. (Medium 2, 37C)
 2762 CDC 78-008101. Susceptibility testing control. MIC (mg/L). Penicillin 0.25; Tetracycline 0.25; Chloramphenicol 2; Clindamycin 0.06; Erythromycin 0.06; Sulfamethoxazole/Trimethoprim 19/1. (Medium 2, 37C)
 2764 CDC 78-008107. Susceptibility testing control. MIC (mg/L). Penicillin 4; Tetracycline 16; Chloramphenicol 16; Clindamycin 8; Erythromycin 8; Sulfamethoxazole/Trimethoprim 19/1. (Medium 2, 37C)
 3201 ATCC 6305. Serotype 5. Media quality control strain (NCCLS M22-A2). (Medium 2, 37C)
 3399 ATCC 49619. JH Jorgensen 262. Control for aerobic antimicrobial susceptibility testing (NCCLS M2-A6, M7-A4). Sputum. (Medium 2, 37C)
 3413 ATCC 49136. AmMS 208. Quality control of Microscan® panels. Clinical isolate. (Medium 2, 37C)
 3517 NCTC 12695. (ATCC 6303, NCIMB 13286). Type 3. (Medium 2, 37C)
 3664 NZ isolate AR 97/268. MIC cefotaxime 8.0, penicillin 4.0. Eye. (Medium 2, 37C).
 4060 ARL 10582. Control strain for CDS method of antibiotic sensitivity testing. From Prince of Wales Hospital, Randwick, NSW, Australia. (Medium 2, 37C).

Also received and held in the Collection, is a set of *Streptococcus pneumoniae* strains for production of serotyping antiserum.

Streptococcus porcinus Collins et al.

- 2276 NCTC 9824. (ATCC 14024). Strain 54/851. Preparation of group P antiserum. (Medium 2, 37C)

Streptococcus pyogenes Rosenbach

Lancefield's Group A

- 93 NCTC 8322. Griffith type 2. (Medium 2, 37C)
 1198 Dr L W Wannamaker, Minnesota University, USA. (ATCC 21546). Strain C.203S, 75-130. Preparation of nuclease B antigen. Type 3. (Medium 2, 37C)
 2264^T NCTC 8198. (ATCC 12344, DSM 20565, NCIB 11841). **Type strain**. Preparation of group A antiserum. Griffith type 1. (Medium 2, 37C)
 2723 ATCC 19615. R G Wittler strain Bruno. Media quality control strain (NCCLS M22-A2). Pharynx of child following episode of sore throat. (Medium 2, 37C)
 2724 ATCC 21547. Production of streptolysin S and O and an anti-tumour agent. Human isolate. (Medium 2, 37C)
 3202 ATCC 12384. R Lancefield typing strain C203. Type 3. Phage host. (Medium 2, 37C)
 3203 ATCC 49117. MO Smith 397. Clinical isolate. (Medium 2, 37C)
 3604 ATCC 12351. RC Lancefield typing strain EI4, strain Dochez NY5. Production of erythrogenic toxin (Dick toxin). T type 8/25. (Medium 2, 37C)

Also held in the Collection are *Streptococcus pyogenes* reference M and T strains.

Streptococcus salivarius Andrewes and Horder

- 990 ATCC 13419. Serological Type II. (Received from Dental Research NZ). (Medium 2, 37C)
 3254 C Sissons, Dental Research Unit, Wellington. Strain 57I. Ureolytic, from artificial dental plaque. Archs Oral Biol 1988; **33**: 727-33. (Medium 2, 37C)
 3489^T ATCC 7073. (DSM 20560, NCTC 8618). Group K. **Type strain**. Blood. (Medium 2, 37C)

Streptococcus sanguinis White and Niven

- 988^T ATCC 10556. (DSM 20567, NCTC 7863). Type I. **Type strain**. Sherman. Extract reacts with group H antiserum. (Received from Dental Research NZ). Subacute bacterial endocarditis. (Medium 2, 37C)
 989 Strain OPAI Carlsson. (Received from Dental Research NZ). (Medium 2, 37C)
 3297 University Hospital, Queen Medical Centre, Nottingham, UK. Type II. Strain J9. Penicillin tolerant. MBC/MIC Ratio > 20,000. Blood. (Medium 2, 37C)

Streptococcus sobrinus Coykendall

- 3363 PHLS Centre for Applied Microbiology and Research, Porton Down, UK. BM1204 from ATCC 27351. (*Streptococcus mutans* serotype d). (Medium 2, 37C)

Streptococcus sp.

- 1107 NCTC 1080. Strain van Sickle. *Streptococcus viridans*. Tonsil. (Medium 2, 37C)
 1238 NCTC 10712. Strain FW75. *Streptococcus viridans*. Sputum. (Medium 2, 37C)

Streptococcus suis (ex Elliot) Kilpper-Balz and Schleifer

- 2278^T NCTC 10234. (ATCC 43765, CCUG 7984, DSM 9682). Strain 735. Preparation of group R antiserum. **Type strain**. Pig. (Medium 2, 37C)
 2279 NCTC 10237. (DSM 9683, CCUG 7985). Strain Field 428. Preparation of group S antiserum. Pig. (Medium 2, 37C)
 2280 NCTC 10446. (CCUG 7986, DSM 9684). Strain T639. Serological group T. Brain of pig. (Medium 2, 37C)

Lancefield's Group E

- 1039 NCTC 10228. Preparation of group E antiserum. Strain K131. Milk. (Medium 2, 37C)

Lancefield's Group F

- 2271 NCTC 5389. Preparation of group F antiserum. (Medium 2, 37C)

Lancefield's Group G

- 95 NCTC 9603. Valente strain. Preparation of group G antiserum. (Medium 2, 37C)
 116 NZ isolate NHI 64/3632. (Medium 2, 37C)
 1985 Prague 22/58. Grouping Reference Strain. From Institute of Hygiene and Epidemiology, Prague. (Medium 2, 37C)

Lancefield's Group L

- 2272 NCTC 10321. Strain SHC 176. (Medium 2, 37C)

Lancefield's Group M

- 2713 NCTC 6400. Strain SHC 256. Tonsil, dog. (Medium 2, 37C)

Lancefield's Group O

- 2714 NCTC 8031. Strain 3415/48. Preparation of group O antiserum. Human. (Medium 2, 37C)

Streptococcus thermophilus (ex Orla-Jensen) Schleifer et al.

- 2281 NCTC 10353. (NCIMB 10387). Testing for antibiotics in milk. (Medium 24, 37C, 5% CO₂)

Streptococcus uberis Diemhofer

- 2266^T NCTC 3858. (ATCC 19436, DSM 20569, NCDO 2038). **Type strain**. Serological group E. (Medium 2, 37C)

"*Streptococcus viridans*" see *Streptococcus* sp. NZRM 1107, 1238

Also held in the Collection are a set of standard indicator and producer strains for "finger printing" of streptococci, from Dr J Tagg, University of Otago, New Zealand.

- Streptomyces griseus* subsp. *griseus* (Krainsky) Waksman and Henrici
98 NCTC 7807. Maxted strain. Preparation of enzyme for extracting streptococci for Lancefield grouping. (Medium 23, 25C)
- Suttonella indologenes* (Snell and Lapage) Dewhirst et al.
Basonym: *Kingella indologenes*
2586^T ATCC 25869. (DSM 8309, NCTC 10717). **Type strain**. Angular conjunctivitis. (Medium 2, 37C)
2710 NZ isolate NHI SB83/0434. (CDC 54654). Eye, conjunctivitis. Microbiol 1994; **140**: 2867-91. (Medium 2, 37C)
- Tatlockia macearchernii* (Brenner et al.) Fox et al.
Basonym: *Legionella macearchernii*
2973^T CDC. (ATCC 35300, NCTC 11982). Strain PX-l-G2-E2. **Type strain**. Serogroup I. Water in home evaporator cooler. (Medium 6, 37C, 5% CO₂)
- Tatlockia micdadei* (Hebert et al.) Garrity et al.
Basonym: *Legionella micdadei*
2609 CDC BCI752. TATL 800103. Serogroup I. (Medium 6, 37C, 5% CO₂)
2757^T ATCC 33218. (NCTC 11371). G Hebert strain Tatlock. **Type strain**. From human blood via yolk sac. (Medium 6, 37C, 5% CO₂)
- Tatumella ptyseos* Hollis et al.
2504^T ATCC 33301. (DSM 5000, NCTC 11468). **Type strain**. Sputum. (Medium 1, 37C)
- Thermoactinomyces vulgaris* Tsilinsky
1026 LSHTM. 1150. (Medium 25, 40-45C)
- Thermoanaerobacterium thermosaccharolyticum* (McClung) Collins et al.
Basonym: *Clostridium thermosaccharolyticum*
3514 NCIMB 9835. (ATCC 7956, DSM 571). Type strain. (Medium 9, 55C, anaerobic)
- Trichophyton mentagrophytes* (Robin) Blanchard
3495 ATCC 9533. (DSM 4870). Strain C W Emmons NIH 640. Germicide testing, US Federal Standards and AOAC Methods. Media quality control strain (NCCLS M22-A2). Tinea pedis. (Medium 5, 25C)
- Trichophyton rubrum* (Castellani) Sabouraud
3251 ATCC 28188. Strain 379 (44252). (Medium 5, 25C). Assay of cycloheximide. Control strain for identification. Media testing. Human lesion.
- Tsukamurella paurometabola* (Steinhaus) Collins et al.
Basonym: *Corynebacterium paurometabolum*
3490 ATCC 25938. (DSM 43246, NCIMB 13124, NCTC 10741). Taxonomy. Sputum. (Medium 1, 25C)
3585^T DSM 20162. (ATCC 8368). **Type strain**. (Medium 1, 30C)
- Turicella otitidis* Funke et al.
3624^T DSM 8821. (ATCC 51513). **Type strain**. Middle ear fluid from otitis media. (Medium 2, 37C, 5% CO₂)
3658 NZ isolate SB 98/515. Otitis media with effusion. (Medium 2, 37C, 5% CO₂).
- Ureaplasma urealyticum* - please inquire
- Vagococcus fluvialis* Collins et al.
3573^T NCIMB 13038. (ATCC 49515, DSM 5731, NCDO 2497). **Type strain**. Chicken faeces. (Medium 2, 37C)
- Vagococcus salmoninarum* Wallbanks et al.
3577^T NCIMB 13133. (ATCC 51200, DSM 6633). **Type strain**. Rainbow trout. (Medium 1, 25C)
- Veillonella dispar* see *Veillonella parvula* NZRM 3369

Veillonella parvula (Veillon and Zuber) Prevot

- 2384^T ATCC 10790. (DSM 2008, NCTC 11810). **Type strain**. Serogroup VI. Intestinal tract. (Medium 4 and/or 9, 37C, anaerobic)
- 3369 PHLS Centre for Applied Microbiology and Research, Porton Down, UK. (ATCC 17745). Strain M Rogosa 259. SG IV. Deposited in ATCC as *Veillonella dispar*. Human mouth. (Medium 4 and/or 9, 37C, anaerobic)

Vibrio alginolyticus (Miyamoto et al.) Sakazaki

- 745 NCTC 10675. (NCIMB 1196). Sakazaki 5078/62. Food. (Medium 1, 37C)

Vibrio anguillarum see *Listonella anguillarum**Vibrio cholerae* Pacini **Distribution restricted**

- 595 CN 3636. Serotype Ogawa. (Medium 1, 37C)
- 776 NZ isolate NHI 72/3529, referred from Lower Hutt Hospital. Serotype Inaba, biotype eltor. Intestinal contents, post mortem. NZ Med J 1973; **78**: 103-4. (Medium 1, 37C)
- 1099 NZ isolate NHI 73/2103, referred from Wanganui Hospital. O1 serum negative. Smith type 309 (Heiberg group I). Faeces, airline passenger who returned via Middle East. (Medium 1, 37C)
- 1204 Strain B53-3 from Central Research Institute, Kasauli, India. Rough. (Medium 1, 37C)
- 2515 NCTC 10954. Serotype Ogawa, biotype eltor. Faeces. (Medium 1, 37C)
- 2516 NCTC 8457. (ATCC 14033). Serotype Inaba, biotype eltor. Non toxigenic. Pilgrims in El Tor quarantine camp. (Medium 1, 37C)
- 2517 NCTC 7270. Serotype Hikojima. (Medium 1, 37C)
- 2519^T NCTC 8021. (ATCC 14035, CDC 9060-79). Serotype Ogawa. **Type strain**. (Medium 1, 37C)
- 3440 Kyoto University, Japan. Strain M045. Serotype 0139. (Medium 1, 37C)
- 4062 NZ isolate ERL 02/2047. Serotype Ogawa biotype El Tor. Infection acquired in India. 0129 resistant strain. (Medium 1, 37C).

Vibrio damsela see *Photobacterium damsela* subsp. *damsela**Vibrio fluvialis* Lee et al.

- 2620^T CDC 9555-78. (ATCC 33809, NCIMB 2249, NCTC 11327). **Type strain**. Biotype I. J V Lee 5125. Human faeces, Bangladesh. (Medium 1, 37C)

Vibrio furnissii Brenner et al.

- 2605 NCTC 11218. Quality control of TCBS Agar. Estuarine water. (Medium 1, 37C)
- 2619 CDC 9552-78. (ATCC 33841, NCTC 11330). J V Lee 5909. Pig faeces. (Medium 1, 37C)

Vibrio hollisae Hickman et al.

- 2748^T ATCC 33564. (CDC 0075-80, DSM 15132, NCTC 11640). **Type strain**. Human faeces. (Medium 2, 37C)
- 4031 NZ isolate ER 01/0047. Faeces, gastroenteritis after consumption of seafood. (Medium 2, 37C).

Vibrio metschnikovii Gamaleia

- 2520^T NCTC 8443. **Type strain**. Fowl. (Medium 1, 37C)

Vibrio mimicus Davis et al.

- 2640 NZ isolate NHI 76/3827. (CDC 979-80). J Clin Microbiol 1981; **14**: 631-9. Wound. (Medium 1, 37C)
- 2647^T ATCC 33653. (CDC 1721-77, NCTC 11435). **Type strain**. Human ear infection. (Medium 1, 37C)

Vibrio natrigiens (Payne et al.) Baumann et al.

Basonym: *Beneckea natrigiens*

- 2562^T ATCC 14048. (CDC 9101-79, DSM 759, NCIMB 857, NCTC 11319). **Type strain**. Salt marsh mud, USA. (Medium 1 with 1.5% NaCl, 37C)

Vibrio parahaemolyticus (Fujino et al.) Sakazaki et al.

- 820 NCTC 10884. (ATCC 43996, DSM 11058). G I Barrow, Truro 70/116655. Kanagawa positive, fatal food poisoning after consuming home preserved cockles, England. (Medium 2, 37C)
- 3389 NZ isolate NHI 73/1851. Kanagawa positive. Gastroenteritis. (Medium 2, 37C)
- 3390 NZ isolate NHI 73/2886d. Kanagawa negative. Oysters, Orongo Bay, New Zealand. (Medium 2, 37C)
- 3391 NZ isolate NHI 75/294. Kanagawa negative Gastroenteritis after consumption of uncooked pipis and mussels. (Medium 2, 37C)

Vibrio vulnificus Farmer

- Basonym: *Beneckeia vulnifica*
- 2506^T ATCC 27562. (CDC 9107-79, DSM 10143, NCIMB 2046). **Type strain**. Blood. (Medium 2, 30C)

Also held in the Collection are the type strains from the ATCC of the following marine *Vibrio* spp. (deposited by Fisheries Research Division of the Ministry of Agriculture and Fisheries, Wellington) *V. campbelli*, *V. fischeri*, *V. harveyi*, *V. nereis*, *V. nigrapulchritudo*, *V. pelagius* (reclassified as *Listonella pelagia*), *V. splendidus*.

Weeksella virosa Holmes et al.

- 1231 NZ isolate NHI 75/0770. (CDC 75-068721). *Flavobacterium* sp. CDC group IIf. Vagina, cervix and urethra. (Medium 1, 37C)

Weissella viridescens (Niven and Evans) Collins et al.

- Basonym: *Lactobacillus viridescens*
- 3313^T NZDRI 20045. (ATCC 12706, DSM 20410, NCDO 1655, NCIMB 8965). **Type strain**. Cured meat products. (Medium 7, 37C, 5% CO₂)

Xanthomonas campestris (Pammel) Dowson emend. Vauterin et al.

- 2531 ATCC 11645. (PDDCC 441). Production of restriction enzymes. (Pathovar *amarinthicola*). (Medium 1, 25C)
- 2532 ATCC 11672. (PDDCC 571). Production of restriction enzymes. (Pathovar *badrii*). (Medium 1, 25C)
- 2533 ATCC 14180. Production of restriction enzymes. (Pathovar *papavericola*). Diseased oriental poppy. (Medium 1, 25C)
- 3950^T ICMP 13. (ATCC 33913). **Type strain**. (Pathovar *campestris*). (Medium 1, 25C).

Xanthomonas maltophilia see *Stenotrophomonas maltophilia**Yarrowia lipolytica* (Wickerham et al.) van der Walt et von Arx

- 3232 ATCC 9773. (*Candida lipolytica*) Growth factor. Quality control strain for bioMerieux Vitek products. Control strain for identification. (Medium 5 or 27, 25C)

Yersinia enterocolitica subsp. *enterocolitica* (Schleifstein and Coleman) Frederiksen

- 767 NCTC 10460. Strain P71. Biotype 3. Serotype 1 (2a, 3). Chinchilla, Denmark. (Medium 1, 37C)
- 1000 University of Lund, Sweden. Strain myo. Syn. *Pasteurella* x. Human serotype 3. (Medium 1, 37C)
- 1001 University of Lund, Sweden. Strain 79B. Human serotype 9. (Medium 1, 37C)
- 2603^T ATCC 9610. (CIP 80-27, DSM 4780). **Type strain**. Biotype 1b. Serotype O:8. QC of *Yersinia* selective agar (NCCLS M22-A2). Glanders-like infection of face. (Medium 1, 37C)
- 3595 NZ isolate ER 95/2135. Serotype O:9. Cross reacts with *Brucella* antisera. Faeces. (Medium 1, 37C)
- 3596 NZ isolate ER 95/1291. Biotype 4. Serotype O:3. Blood, fatal case of transfusion-induced *Yersinia* sepsis. (Medium 1, 37C)

Also held in the Collection are *Yersinia enterocolitica* strains for preparation of antisera.

Yersinia frederiksenii Ursing et al.

- 2534^T CIP 80.29. (ATCC 33641, NCTC 11470). **Type strain**. Sewage, Denmark. (Medium 1, 37C)

Yersinia intermedia Brenner et al.

2604^T ATCC 29909. (CIP 80.28, NCTC 11469). **Type strain.** Human urine. (Medium 1, 37C)

Yersinia kristensenii Bercovier et al.

2535^T CIP 80.30. (ATCC 33638, NCTC 11471). **Type strain.** Human urine. (Medium 1, 37C)

Yersinia pseudotuberculosis (Pfeiffer) Smith and Thal

63 NCTC 1102. (ATCC 6902). Schutze Group I, type A. Avirulent. (Medium 1, 37C)

110 NZ isolate 1968 (rabbit). (Medium 1, 37C)

768^T NCTC 10275. (ATCC 29833, DSM 8992). **Type strain.** Thal group I. Turkey. (Medium 1, 37C)

769 NCTC 10277. Thal group II. Hare. (Medium 1, 37C)

770 NCTC 10278. Thal group III. Mink. (Medium 1, 37C)

771 NCTC 8580. (ATCC 13979). Thal group IV. Raffinose positive. Hare. (Medium 1, 37C)

772 NCTC 8579. Thal group V. Hare. (Medium 1, 37C)

Yersinia ruckeri Ewing et al. **Distribution restricted**

2237^T CDC 2396-61. (ATCC 29473, NCIMB 2194). **Type strain.** "The Redmouth Bacterium". Rainbow trout. (Medium 1, 30C)

Zygosaccharomyces rouxii (Boutroux) Yarrow

3332 CSIRO Food Research Laboratory, North Ryde, NSW, Australia. FRR 1911. Cream filled chocolates. Osmotolerant. (Medium 5, 30C)

4175 ACM 5102. (CBS 7804, NCYC 381). Sugar cane. Osmotolerant. (Medium 5, 30C).

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718	Salmonella, serotype Chandans	824	Stenotrophomonas maltophilia
720	Salmonella, serotype Luciana	825	Shewanella putrefaciens
722	Salmonella, serotype Selandia	827	Moraxella (Moraxella) osloensis
723	Salmonella, serotype Hadar	828	Psychrobacter phenylphruvicus
724	Salmonella, serotype Albany	829	Moraxella (Moraxella) lacunata
725	Salmonella, serotype Give	830	Moraxella (Moraxella) bovis
730	Escherichia coli	832	Achromobacter xylosoxidans subsp. xylosoxidans
731	Escherichia coli	833	Achromobacter xylosoxidans subsp. xylosoxidans
732	Escherichia coli	835	Acinetobacter calcoaceticus
733	Escherichia coli	836	Alcaligenes faecalis subsp. faecalis
734	Escherichia coli	837	Achromobacter xylosoxidans subsp. denitrificans
735	Escherichia coli	838	Actinobacillus suis
736	Escherichia coli	839	Haemophilus parahaemolyticus
737	Escherichia coli	840	Cardiobacterium hominis
738	Escherichia coli	841	Neisseria sicca
739	Escherichia coli	842	Neisseria mucosa
740	Escherichia coli	843	Neisseria subflava

844	<i>Neisseria flava</i>	921	<i>Salmonella</i> , serotype Bulawayo
845	<i>Neisseria lactamica</i>	922	<i>Salmonella</i> , serotype Bunnik
846	<i>Neisseria perflava</i>	923	<i>Salmonella</i> , serotype Thompson
847	<i>Chryseobacterium meningosepticum</i>	924	<i>Salmonella</i> , serotype Cerro
848	<i>Chryseobacterium indologenes</i>	925	<i>Salmonella</i> , serotype Chester
849	<i>Burkholderia cepacia</i>	926	<i>Salmonella</i> Cholerae-suis
850	<i>Delftia acidovorans</i>	927	<i>Salmonella</i> Cholerae-suis
851	<i>Pseudomonas alcaligenes</i>	928	<i>Salmonella</i> , serotype Champaign
852	<i>Pseudomonas putida</i>	929	<i>Salmonella</i> , serotype Dakar
853	<i>Pseudomonas</i> sp. CDC group 1	930	<i>Salmonella</i> , serotype Deversoir
854	<i>Comamonas testosteroni</i>	931	<i>Salmonella</i> , serotype Dugbe
856	<i>Brevundimonas diminuta</i>	932	<i>Salmonella</i> , serotype Djakarta
857	<i>Dermatophilus congolensis</i>	933	<i>Salmonella</i> , serotype Florida
858	<i>Enterobacter cloacae</i>	934	<i>Salmonella</i> , serotype Infantis
859	<i>Enterobacter aerogenes</i>	935	<i>Salmonella</i> , serotype Panama
860	<i>Hafnia alvei</i>	936	<i>Salmonella</i> , serotype Loenga
861	<i>Serratia liquefaciens</i>	937	<i>Salmonella</i> , serotype Madelia
862	<i>Pseudomonas fluorescens</i>	938	<i>Salmonella</i> , serotype Madelia
863	<i>Mannheimia haemolytica</i>	939	<i>Salmonella</i> , serotype Mikawasima
864	<i>Actinobacillus ureae</i>	941	<i>Salmonella</i> , serotype Anatum
865	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>	942	<i>Salmonella</i> , serotype Mississippi
866	<i>Shigella flexneri</i>	943	<i>Salmonella</i> , serotype Mississippi
867	<i>Edwardsiella tarda</i>	944	<i>Salmonella</i> , serotype Niarembe
868	<i>Citrobacter koseri</i>	945	<i>Salmonella</i> , serotype Gallinarum
869	<i>Rhodococcus equi</i>	946	<i>Salmonella</i> , serotype Duisburg
870	<i>Corynebacterium pseudotuberculosis</i>	947	<i>Salmonella</i> , serotype Senftenberg
871	<i>Clostridium histolyticum</i>	948	<i>Salmonella</i> , serotype Senftenberg
872	<i>Clostridium limosum</i>	949	<i>Salmonella</i> , serotype Senftenberg
873	<i>Clostridium ramosum</i>	950	<i>Salmonella</i> , serotype Senftenberg
874	<i>Clostridium sphenoides</i>	951	<i>Salmonella</i> , serotype Sternchanze
875	<i>Clostridium tertium</i>	952	<i>Salmonella</i> , serotype Tallahassee
882	<i>Clostridium innocuum</i>	953	<i>Salmonella</i> , serotype Tokai
883	<i>Clostridium paraputrificum</i>	954	<i>Salmonella</i> , serotype Tulear
884	<i>Clostridium sordelli</i>	955	<i>Salmonella</i> Typhi
885	<i>Clostridium subterminale</i>	956	<i>Salmonella</i> , serotype Wassenaar
887	<i>Clostridium perfringens</i>	957	<i>Salmonella</i> , serotype Wayne
888	<i>Clostridium perfringens</i>	958	<i>Salmonella</i> sp.
889	<i>Clostridium perfringens</i>	959	<i>Pasteurella dagmatis</i>
890	<i>Clostridium perfringens</i>	960	<i>Bacillus pumilus</i>
891	<i>Clostridium perfringens</i>	961	<i>Streptococcus agalactiae</i>
892	<i>Clostridium perfringens</i>	962	<i>Escherichia coli</i>
893	<i>Clostridium perfringens</i>	964	<i>Bacteroides fragilis</i>
894	<i>Clostridium perfringens</i>	965	<i>Shigella boydii</i>
895	<i>Clostridium perfringens</i>	966	<i>Shigella boydii</i>
896	<i>Clostridium perfringens</i>	967	<i>Shigella boydii</i>
897	<i>Clostridium perfringens</i>	968	<i>Shigella boydii</i>
898	<i>Clostridium perfringens</i>	969	<i>Shigella boydii</i>
899	<i>Clostridium perfringens</i>	970	<i>Shigella boydii</i>
902	<i>Propionibacterium propionicus</i>	971	<i>Shigella boydii</i>
907	<i>Propionibacterium granulosum</i>	972	<i>Shigella flexneri</i>
908	<i>Streptococcus agalactiae</i>	973	<i>Shigella flexneri</i>
909	<i>Streptococcus agalactiae</i>	974	<i>Shigella flexneri</i>
910	<i>Streptococcus agalactiae</i>	975	<i>Salmonella</i> , serotype Richmond
911	<i>Streptococcus agalactiae</i>	976	<i>Shigella flexneri</i>
912	<i>Streptococcus agalactiae</i>	977	<i>Shigella flexneri</i>
913	<i>Streptococcus agalactiae</i>	978	<i>Actinomyces israelii</i>
914	<i>Streptococcus dysgalactiae</i> subsp. <i>equisimilis</i>	979	<i>Escherichia coli</i>
915	<i>Corynebacterium renale</i>	980	<i>Pseudomonas aeruginosa</i>
916	<i>Escherichia coli</i>	981	<i>Pseudomonas aeruginosa</i>
917	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>	982	<i>Citrobacter freundii</i>
918	<i>Pseudomonas aeruginosa</i>	983	<i>Shigella flexneri</i>
919	<i>Salmonella</i> , serotype Litchfield	984	<i>Bacillus cereus</i>
920	<i>Salmonella</i> , serotype Abortusequi	985	<i>Streptococcus mutans</i>

986	<i>Streptococcus mutans</i>	1059	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
987	<i>Streptococcus mutans</i>	1060	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
988	<i>Streptococcus sanguinis</i>	1061	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
989	<i>Streptococcus sanguinis</i>	1068	<i>Salmonella</i> , serotype Poona
990	<i>Streptococcus salivarius</i>	1069	<i>Salmonella</i> Cholerae suis
991	<i>Lactobacillus helveticus</i>	1070	<i>Salmonella</i> , serotype Bovismorbificans
992	<i>Bacillus cereus</i>	1071	<i>Salmonella</i> , serotype Java
993	<i>Escherichia coli</i>	1072	CDC group EF-4a
995	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>	1073	<i>Salmonella</i> , serotype Muenster
996	<i>Proteus vulgaris</i>	1074	<i>Salmonella</i> , serotype Paratyphi A
997	<i>Pseudomonas aeruginosa</i>	1075	<i>Salmonella</i> , serotype Leeuwarden
998	<i>Salmonella</i> , serotype Thompson	1076	<i>Salmonella</i> , serotype Agona
999	<i>Salmonella</i> , serotype Gombe	1077	<i>Bacillus megaterium</i>
1000	<i>Yersinia enterocolitica</i> subsp. <i>enterocolitica</i>	1078	<i>Propionibacterium acnes</i>
1001	<i>Yersinia enterocolitica</i> subsp. <i>enterocolitica</i>	1079	<i>Corynebacterium minutissimum</i>
1003	<i>Actinomyces odontolyticus</i>	1080	<i>Actinobacillus equuli</i> subsp. <i>equuli</i>
1004	<i>Actinomyces naeslundii</i>	1081	<i>Actinobacillus lignieresii</i>
1005	<i>Actinomyces bovis</i>	1082	<i>Chromobacterium violaceum</i>
1006	<i>Clostridium bifermentans</i>	1083	<i>Riemerella anatipestifer</i>
1007	<i>Porphyromonas asaccharolytica</i>	1084	<i>Campylobacter fetus</i> subsp. <i>fetus</i>
1008	<i>Eikenella corrodens</i>	1085	<i>Salmonella</i> , serotype Emek
1009	<i>Clostridium novyi</i>	1087	<i>Methylobacterium mesophilicum</i>
1010	<i>Staphylococcus saprophyticus</i> subsp. <i>saprophyticus</i>	1088	<i>Listeria grayi</i>
1011	<i>Pasteurella volantium</i>	1089	<i>Pasteurella bettyae</i>
1012	<i>Bacillus subtilis</i>	1090	<i>Providencia stuartii</i>
1013	<i>Brevibacillus laterosporus</i>	1091	<i>Providencia alcalifaciens</i>
1015	<i>Shigella dysenteriae</i>	1092	<i>Pantoea agglomerans</i>
1016	<i>Shigella flexneri</i>	1093	<i>Salmonella</i> , serotype Isangi
1017	<i>Shigella flexneri</i>	1094	<i>Moraxella</i> (<i>Branhamella</i>) <i>catarrhalis</i>
1018	<i>Shigella flexneri</i>	1095	<i>Campylobacter fetus</i> subsp. <i>venerealis</i>
1019	<i>Shigella flexneri</i>	1096	<i>Corynebacterium diphtheriae</i>
1020	<i>Shigella flexneri</i>	1097	<i>Clostridium sporogenes</i>
1026	<i>Thermoactinomyces vulgaris</i>	1098	<i>Bacteroides fragilis</i>
1027	<i>Saccharopolyspora rectivirgula</i>	1099	<i>Vibrio cholerae</i>
1029	<i>Aeromonas caviae</i>	1100	<i>Lactobacillus plantarum</i>
1030	<i>Klebsiella pneumoniae</i> subsp. <i>pneumoniae</i>	1105	<i>Brucella ovis</i>
1031	<i>Lactobacillus delbrueckii</i> subsp. <i>bulgaricus</i>	1106	<i>Enterococcus faecalis</i>
1032	<i>Salmonella</i> , serotype Bere	1107	<i>Streptococcus</i> sp.
1033	<i>Neisseria meningitidis</i>	1108	<i>Haemophilus influenzae</i>
1034	<i>Neisseria meningitidis</i>	1109	<i>Fusobacterium necrophorum</i> subsp. <i>necrophorum</i>
1035	<i>Neisseria gonorrhoeae</i>	1110	<i>Salmonella</i> , serotype Paratyphi C
1036	<i>Neisseria gonorrhoeae</i>	1111	<i>Salmonella</i> Typhi
1037	<i>Neisseria gonorrhoeae</i>	1112	<i>Salmonella</i> Cholerae suis
1038	<i>Nocardia brasiliensis</i>	1113	<i>Salmonella</i> Cholerae suis
1039	<i>Streptococcus</i> sp. Lanfield's Group E	1117	<i>Salmonella</i> , serotype Potsdam
1040	<i>Neisseria gonorrhoeae</i>	1118	<i>Leifsonia aquatica</i>
1042	<i>Lactobacillus rhamnosus</i>	1135	<i>Clostridium sphenoides</i>
1043	<i>Neisseria meningitidis</i>	1136	<i>Proteus mirabilis</i>
1044	<i>Neisseria meningitidis</i>	1137	<i>Salmonella</i> , serotype Tennessee
1045	<i>Neisseria meningitidis</i>	1138	<i>Salmonella</i> Typhimurium
1046	<i>Neisseria meningitidis</i>	1139	<i>Salmonella</i> , serotype Anatum
1047	<i>Neisseria meningitidis</i>	1140	<i>Salmonella</i> , serotype Newport
1048	<i>Neisseria meningitidis</i>	1141	<i>Bacteroides fragilis</i>
1049	<i>Neisseria meningitidis</i>	1142	<i>Salmonella</i> , serotype Dar-es-salaam
1050	<i>Neisseria meningitidis</i>	1143	<i>Salmonella</i> , serotype Reading
1051	<i>Neisseria meningitidis</i>	1144	<i>Salmonella</i> , serotype Flint
1052	<i>Neisseria meningitidis</i>	1145	<i>Escherichia coli</i>
1053	<i>Neisseria meningitidis</i>	1146	<i>Escherichia coli</i>
1054	<i>Neisseria meningitidis</i>	1147	<i>Escherichia coli</i>
1055	<i>Neisseria meningitidis</i>	1148	<i>Escherichia coli</i>
1056	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>	1149	<i>Escherichia coli</i>
1057	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>	1150	<i>Escherichia coli</i>
1058	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>	1151	<i>Escherichia coli</i>

1152	<i>Escherichia coli</i>	1241	<i>Escherichia coli</i>
1153	<i>Pedobacter heparinus</i>	1242	<i>Escherichia coli</i>
1154	<i>Microbacterium lacticum</i>	1245	<i>Clostridium clostridiiforme</i>
1160	<i>Salmonella</i> , serotype Cerro	1246	<i>Neisseria gonorrhoeae</i>
1174	<i>Serratia rubidaea</i>	1247	<i>Neisseria gonorrhoeae</i>
1175	<i>Serratia liquefaciens</i>	1248	<i>Neisseria gonorrhoeae</i>
1176	<i>Cellulomonas flavigena</i>	1257	<i>Klebsiella pneumoniae</i> subsp. <i>pneumoniae</i>
1177	<i>Enterococcus hirae</i>	1258	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
1178	<i>Salmonella</i> , serotype Cubana	1259	<i>Ochrobacterium anthropi</i>
1179	<i>Salmonella</i> , serotype Newport	1283	<i>Neisseria meningitidis</i>
1180	<i>Salmonella</i> , serotype Paratyphi A	1284	<i>Salmonella</i> , serotype Cubana
1181	<i>Shigella flexneri</i>	1285	" <i>Escherichia aurescens</i> "
1182	<i>Shigella flexneri</i>	1302	<i>Escherichia coli</i>
1183	<i>Shigella flexneri</i>	1326	<i>Escherichia coli</i>
1185	<i>Shigella flexneri</i>	1701	<i>Clostridium perfringens</i>
1186	<i>Shigella flexneri</i>	1702	<i>Clostridium perfringens</i>
1187	<i>Salmonella</i> , serotype Muenster	1703	<i>Clostridium perfringens</i>
1188	<i>Serratia marcescens</i> subsp. <i>marcescens</i>	1704	<i>Clostridium perfringens</i>
1189	<i>Salmonella</i> , serotype Indiana	1705	<i>Bacteroides fragilis</i>
1190	<i>Haemophilus influenzae</i>	1738	<i>Bacteroides capillosus</i>
1191	<i>Haemophilus influenzae</i>	1957	<i>Clostridium cochlearium</i>
1192	<i>Haemophilus influenzae</i>	1958	<i>Campylobacter jejuni</i> subsp. <i>jejuni</i>
1193	<i>Haemophilus influenzae</i>	1960	<i>Bacteroides vulgatus</i>
1194	<i>Haemophilus influenzae</i>	1963	<i>Neisseria meningitidis</i>
1195	<i>Haemophilus influenzae</i>	1966	<i>Listeria monocytogenes</i>
1196	<i>Haemophilus influenzae</i>	1985	<i>Streptococcus</i> sp. Lancefield's Group G
1197	<i>Haemophilus influenzae</i>	1986	<i>Listeria monocytogenes</i>
1198	<i>Streptococcus pyogenes</i>	1987	<i>Listeria monocytogenes</i>
1201	<i>Salmonella</i> , serotype Livingstone	1988	<i>Pseudoramibacter alactolyticus</i>
1202	<i>Salmonella</i> , serotype Quimbamba	2007	<i>Pseudomonas stutzeri</i>
1203	<i>Salmonella</i> , serotype Kimpese	2008	<i>Legionella pneumophila</i> subsp. <i>fraseri</i>
1204	<i>Vibrio cholerae</i>	2009	<i>Bacteroides ureolyticus</i>
1205	<i>Micrococcus luteus</i>	2010	<i>Kingella kingae</i>
1207	<i>Saccharomyces cerevisiae</i>	2011	<i>Escherichia coli</i>
1208	<i>Klebsiella pneumoniae</i> subsp. <i>pneumoniae</i>	2012	<i>Escherichia coli</i>
1209	<i>Salmonella</i> , serotype Abortusovis	2016	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
1210	<i>Staphylococcus epidermidis</i>	2020	<i>Ralstonia pickettii</i>
1211	<i>Kocuria rhizophila</i>	2021	<i>Delftia acidovorans</i>
1212	<i>Candida albicans</i>	2024	<i>Listeria monocytogenes</i>
1213	<i>Haemophilus aphrophilus</i>	2027	<i>Pseudomonas luteola</i>
1214	<i>Campylobacter fetus</i> subsp. <i>fetus</i>	2028	<i>Listonella anguillarum</i>
1215	<i>Clostridium</i> sp.	2029	<i>Enterobacter sakazakii</i>
1216	<i>Kocuria rhizophila</i>	2030	<i>Enterobacter gergoviae</i>
1217	<i>Pseudomonas stutzeri</i>	2104	<i>Klebsiella pneumoniae</i> subsp. <i>ozaenae</i>
1218	<i>Acinetobacter lwoffii</i>	2199	<i>Pseudomonas oryzae</i> subsp. <i>oryzae</i>
1219	<i>Pseudomonas fluorescens</i>	2200	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
1220	<i>Flavobacterium</i> sp. CDC Group IIc	2201	<i>Staphylococcus warneri</i>
1221	<i>Clostridium sporogenes</i>	2202	<i>Staphylococcus capitis</i> subsp. <i>capitis</i>
1222	<i>Listonella anguillarum</i>	2203	<i>Staphylococcus hominis</i> subsp. <i>hominis</i>
1223	<i>Salmonella</i> , serotype Dessau	2204	<i>Staphylococcus simulans</i>
1224	<i>Clostridium perfringens</i>	2205	<i>Staphylococcus epidermidis</i>
1228	<i>Sphingobacterium multivorum</i>	2206	<i>Kocuria kristinae</i>
1229	<i>Myroides odoratus</i>	2207	<i>Kytococcus sedentarius</i>
1230	<i>Sphingomonas paucimobilis</i>	2208	<i>Micrococcus lylae</i>
1231	<i>Weeksella virosa</i>	2209	<i>Staphylococcus xylosus</i>
1233	<i>Ralstonia pickettii</i>	2210	<i>Staphylococcus haemolyticus</i>
1234	<i>Streptococcus bovis</i>	2211	<i>Staphylococcus cohnii</i> subsp. <i>cohnii</i>
1235	<i>Enterococcus durans</i>	2213	<i>Staphylococcus intermedius</i>
1236	<i>Enterococcus faecium</i>	2214	<i>Micrococcus luteus</i>
1237	" <i>Streptococcus milleri</i> "	2215	<i>Enterococcus hirae</i>
1238	<i>Streptococcus</i> sp.	2216	<i>Streptococcus agalactiae</i>
1239	<i>Enterococcus faecalis</i>	2217	<i>Streptococcus agalactiae</i>
1240	<i>Enterococcus faecalis</i>	2220	<i>Escherichia coli</i>

2221	<i>Neisseria gonorrhoeae</i>	2393	<i>Janthinobacterium lividum</i>
2222	<i>Neisseria gonorrhoeae</i>	2395	<i>Escherichia coli</i>
2223	<i>Neisseria gonorrhoeae</i>	2396	<i>Prevotella intermedia</i>
2224	<i>Neisseria gonorrhoeae</i>	2397	<i>Campylobacter jejuni</i> subsp. <i>jejuni</i>
2225	<i>Neisseria gonorrhoeae</i>	2398	<i>Campylobacter fetus</i> ss <i>fetus</i>
2226	<i>Neisseria meningitidis</i>	2399	<i>Campylobacter fetus</i> ss <i>venerealis</i>
2227	<i>Escherichia coli</i>	2497	<i>Salmonella</i> , serotype Hvittingfoss
2228	<i>Candida albicans</i>	2498	<i>Salmonella</i> , serotype Virchow
2229	<i>Proteus mirabilis</i>	2501	<i>Legionella pneumophila</i> subsp. <i>pneumophila</i>
2230	<i>Staphylococcus epidermidis</i>	2502	<i>Legionella pneumophila</i> subsp. <i>fraseri</i>
2236	<i>Enterobacter cloacae</i>	2504	<i>Tatumella ptyseos</i>
2237	<i>Yersinia ruckeri</i>	2505	<i>Paenibacillus polymyxa</i>
2240	<i>Bacillus subtilis</i>	2506	<i>Vibrio vulnificus</i>
2241	<i>Saccharomyces cerevisiae</i>	2507	<i>Shigella dysenteriae</i>
2242	<i>Microsporium gypseum</i>	2508	<i>Shigella dysenteriae</i>
2243	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>	2509	<i>Shigella dysenteriae</i>
2244	<i>Enterococcus faecalis</i>	2510	<i>Shigella dysenteriae</i>
2245	<i>Legionella pneumophila</i> subsp. <i>pneumophila</i>	2511	<i>Shigella dysenteriae</i>
2246	<i>Escherichia coli</i>	2512	<i>Shigella dysenteriae</i>
2258	<i>Clostridium perfringens</i>	2513	<i>Shigella dysenteriae</i>
2259	<i>Clostridium perfringens</i>	2514	<i>Shigella dysenteriae</i>
2260	<i>Pseudomonas aeruginosa</i>	2515	<i>Vibrio cholerae</i>
2261	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>	2516	<i>Vibrio cholerae</i>
2262	<i>Enterococcus faecalis</i>	2517	<i>Vibrio cholerae</i>
2263	<i>Legionella pneumophila</i> subsp. <i>pneumophila</i>	2519	<i>Vibrio cholerae</i>
2264	<i>Streptococcus pyogenes</i>	2520	<i>Vibrio metschnikovii</i>
2265	<i>Streptococcus equinus</i>	2521	<i>Curtobacterium albidum</i>
2266	<i>Streptococcus uberis</i>	2522	“ <i>Corynebacterium petrophilum</i> ”
2267	<i>Streptococcus agalactiae</i>	2523	<i>Pasteurella volantium</i>
2268	<i>Streptococcus dysgalactiae</i> subsp. <i>dysgalactiae</i>	2524	<i>Haemophilus haemoglobinophilus</i>
2269	<i>Streptococcus equi</i> subsp. <i>equi</i>	2525	<i>Haemophilus parasuis</i>
2270	<i>Streptococcus equi</i> subsp. <i>zooepidemicus</i>	2526	<i>Haemophilus influenzae</i>
2271	<i>Streptococcus</i> sp. Lancefield’s Group F	2527	<i>Haemophilus parahaemolyticus</i>
2272	<i>Streptococcus</i> sp. Lancefield’s Group L	2528	<i>Moraxella (Moraxella) nonliquefaciens</i>
2274	<i>Lactococcus lactis</i> subsp. <i>lactis</i>	2529	<i>Providencia alcalifaciens</i>
2276	<i>Streptococcus porcicus</i>	2530	<i>Saccharomonospora viridis</i>
2277	<i>Enterococcus avium</i>	2531	<i>Xanthomonas campestris</i>
2278	<i>Streptococcus suis</i>	2532	<i>Xanthomonas campestris</i>
2279	<i>Streptococcus suis</i>	2533	<i>Xanthomonas campestris</i>
2280	<i>Streptococcus suis</i>	2534	<i>Yersinia frederiksenii</i>
2281	<i>Streptococcus thermophilus</i>	2535	<i>Yersinia kristensenii</i>
2282	<i>Escherichia coli</i>	2562	<i>Vibrio natrigens</i>
2301	<i>Klebsiella oxytoca</i>	2563	<i>Kocuria rosea</i>
2302	<i>Citrobacter amalonaticus</i>	2564	<i>Kocuria varians</i>
2303	<i>Gardnerella vaginalis</i>	2565	<i>Moraxella (Branhamella) catarrhalis</i>
2304	<i>Gardnerella vaginalis</i>	2566	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
2305	<i>Gardnerella vaginalis</i>	2568	<i>Clostridium butyricum</i>
2306	<i>Gardnerella vaginalis</i>	2569	<i>Bacillus coagulans</i>
2307	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>	2571	<i>Eggerthella lenta</i>
2308	<i>Haemophilus haemolyticus</i>	2572	<i>Eubacterium limosum</i>
2309	<i>Haemophilus paraphrophilus</i>	2573	<i>Fusobacterium mortiferum</i>
2374	<i>Haemophilus segnis</i>	2574	<i>Gluconobacter oxydans</i> subsp. <i>oxydans</i>
2375	<i>Enterobacter cloacae</i>	2575	<i>Pasteurella aerogenes</i>
2376	<i>Neisseria elongata</i> subsp. <i>nitroreducans</i>	2576	<i>Pseudomonas aeruginosa</i>
2377	<i>Clostridium difficile</i>	2577	<i>Escherichia coli</i>
2382	<i>Fingoldia magna</i>	2578	<i>Aspergillus niger</i>
2384	<i>Veillonella parvula</i>	2581	<i>Acinetobacter lwoffii</i>
2386	<i>Kingella denitrificans</i>	2582	<i>Escherichia coli</i>
2387	<i>Moraxella (Moraxella) osloensis</i>	2583	<i>Salmonella Typhi</i>
2389	<i>Candida tropicalis</i>	2584	<i>Pseudomonas aeruginosa</i>
2390	<i>Clostridium difficile</i>	2585	<i>Serratia liquefaciens</i>
2391	<i>Streptococcus intermedius</i>	2586	<i>Suttonella indologenes</i>
2392	<i>Legionella pneumophila</i> subsp. <i>pneumophila</i>	2587	<i>Corynebacterium xerosis</i>

2588	<i>Propionibacterium granulosum</i>	2721	<i>Streptococcus agalactiae</i>
2589	<i>Paenibacillus polymyxa</i>	2722	<i>Streptococcus dysgalactiae</i> subsp. <i>equisimilis</i>
2590	<i>Neisseria lactamica</i>	2723	<i>Streptococcus pyogenes</i>
2591	<i>Listeria monocytogenes</i>	2724	<i>Streptococcus pyogenes</i>
2592	<i>Listeria monocytogenes</i>	2725	<i>Streptococcus pneumoniae</i>
2593	<i>Listeria grayi</i>	2726	<i>Listeria monocytogenes</i>
2594	<i>Listeria monocytogenes</i>	2727	<i>Acinetobacter</i> sp.
2595	<i>Listeria monocytogenes</i>	2728	<i>Shigella sonnei</i>
2596	<i>Listeria monocytogenes</i>	2729	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
2597	<i>Listeria monocytogenes</i>	2744	<i>Pseudomonas fragi</i>
2598	<i>Listeria monocytogenes</i>	2745	<i>Escherichia coli</i>
2603	<i>Yersinia enterocolitica</i> subsp. <i>enterocolitica</i>	2746	<i>Escherichia coli</i>
2604	<i>Yersinia intermedia</i>	2747	<i>Kocuria rhizophila</i>
2605	<i>Vibrio furnissii</i>	2748	<i>Vibrio hollisae</i>
2606	<i>Campylobacter coli</i>	2749	<i>Escherichia coli</i>
2607	<i>Campylobacter coli</i>	2750	<i>Escherichia coli</i>
2609	<i>Tatlockia micdadei</i>	2754	<i>Legionella pneumophila</i> subsp. <i>fraseri</i>
2611	<i>Shigella boydii</i>	2757	<i>Tatlockia micdadei</i>
2612	<i>Shigella boydii</i>	2758	<i>Oligella urethralis</i>
2613	<i>Shigella boydii</i>	2759	<i>Neisseria weaveri</i>
2614	<i>Shigella boydii</i>	2760	<i>Capnocytophaga</i> sp.
2615	<i>Shigella boydii</i>	2761	<i>Corynebacterium jeikeium</i>
2616	<i>Shigella boydii</i>	2762	<i>Streptococcus pneumoniae</i>
2617	<i>Shigella boydii</i>	2764	<i>Streptococcus pneumoniae</i>
2618	<i>Shigella boydii</i>	2765	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
2619	<i>Vibrio furnissii</i>	2766	<i>Ewingella americana</i>
2620	<i>Vibrio fluvialis</i>	2768	<i>Burkholderia cepacia</i>
2621	<i>Clostridium perfringens</i>	2830	<i>Streptococcus agalactiae</i>
2622	<i>Campylobacter lari</i>	2831	<i>Streptococcus agalactiae</i>
2625	<i>Salmonella Typhi</i>	2832	<i>Streptococcus agalactiae</i>
2626	<i>Kluyvera ascorbata</i>	2833	<i>Streptococcus agalactiae</i>
2627	<i>Kluyvera cryocrescens</i>	2834	<i>Streptococcus agalactiae</i>
2639	<i>Salmonella Choleraesuis</i>	2835	<i>Legionella oakridgensis</i>
2640	<i>Vibrio mimicus</i>	2836	<i>Legionella sainthelensi</i>
2642	<i>Bordetella pertussis</i>	2837	<i>Legionella feeleii</i>
2643	<i>Bordetella pertussis</i>	2838	<i>Legionella pneumophila</i>
2644	<i>Bordetella pertussis</i>	2839	<i>Legionella pneumophila</i> subsp. <i>pneumophila</i>
2645	<i>Sphingobacterium spiritivorum</i>	2843	<i>Peptostreptococcus anaerobius</i>
2646	<i>Candida albicans</i>	2844	<i>Serratia marcescens</i> subsp. <i>marcescens</i>
2647	<i>Vibrio mimicus</i>	2854	<i>Serratia marcescens</i> subsp. <i>marcescens</i>
2655	<i>Ralstonia paucula</i>	2860	<i>Serratia plymuthica</i>
2689	<i>Photobacterium damsela</i> subsp. <i>damsela</i>	2900	<i>Bacteroides ovatus</i>
2690	<i>Escherichia coli</i>	2901	<i>Bacteroides distasonis</i>
2699	<i>Legionella longbeachae</i>	2902	<i>Bacteroides thetaiotaomicron</i>
2700	<i>Fluoribacter gormanii</i>	2903	<i>Peptoniphilus asaccharolyticus</i>
2701	<i>Fluoribacter bozemanii</i>	2919	<i>Fusobacterium varium</i>
2702	<i>Fluoribacter dumoffii</i>	2920	<i>Prevotella oralis</i>
2703	<i>Legionella jordanii</i>	2925	<i>Helicobacter pylori</i>
2704	<i>Legionella longbeachae</i>	2926	<i>Paracoccus yeei</i>
2705	<i>Legionella wadsworthii</i>	2927	<i>Neisseria cinerea</i>
2706	<i>Capnocytophaga canimorsus</i>	2928	<i>Prevotella intermedia</i>
2707	<i>Fusobacterium nucleatum</i> subsp. <i>nucleatum</i>	2929	<i>Legionella feeleii</i>
2708	<i>Pasteurella multocida</i> subsp. <i>multocida</i>	2930	<i>Mobiluncus curtisii</i> subsp. <i>curtisii</i>
2709	<i>Haemophilus influenzae</i>	2931	<i>Candida glabrata</i>
2710	<i>Suttonella indologenes</i>	2932	<i>Candida glabrata</i>
2711	<i>Pseudomonas aeruginosa</i>	2938	<i>Corynebacterium urealyticum</i>
2712	<i>Salmonella</i> , serotype <i>abony</i>	2939	<i>Campylobacter fetus</i> subsp. <i>fetus</i>
2713	<i>Streptococcus</i> sp. <i>Lancefield's Group M</i>	2940	<i>Campylobacter fetus</i> subsp. <i>fetus</i>
2714	<i>Streptococcus</i> sp. <i>Lancefield's Group O</i>	2941	<i>Campylobacter fetus</i> subsp. <i>fetus</i>
2717	<i>Escherichia coli</i>	2942	<i>Campylobacter fetus</i> subsp. <i>fetus</i>
2718	<i>Escherichia coli</i>	2943	<i>Campylobacter fetus</i> subsp. <i>fetus</i>
2719	<i>Klebsiella pneumoniae</i> subsp. <i>pneumoniae</i>	2944	<i>Campylobacter fetus</i> subsp. <i>fetus</i>
2720	<i>Streptococcus bovis</i>	2945	<i>Campylobacter fetus</i> subsp. <i>fetus</i>

2946	<i>Bacillus mycoides</i>	3050	<i>Neisseria gonorrhoeae</i>
2947	<i>Listeria innocua</i>	3076	<i>Bacteroides distasonis</i>
2950	<i>Bacteroides thetaiotaomicron</i>	3077	<i>Neisseria cinerea</i>
2954	<i>Legionella jamestowniensis</i>	3078	<i>Staphylococcus lugdunensis</i>
2955	<i>Legionella rubrilucens</i>	3079	<i>Staphylococcus schleiferi</i> subsp. <i>schleiferi</i>
2960	<i>Legionella cherrii</i>	3080	<i>Staphylococcus schleiferi</i> subsp. <i>schleiferi</i>
2962	Pseudomonas-like (PL) CDC group 2	3081	<i>Rhizobium radiobacter</i>
2963	<i>Legionella pneumophila</i> subsp. <i>pneumophila</i>	3082	<i>Desulfovibrio desulfuricans</i>
2964	<i>Legionella pneumophila</i> subsp. <i>pneumophila</i>	3084	<i>Escherichia coli</i>
2965	<i>Legionella pneumophila</i> subsp. <i>pneumophila</i>	3085	<i>Staphylococcus auricularis</i>
2966	<i>Fluoribacter bozemanai</i>	3086	<i>Staphylococcus sciuri</i> subsp. <i>sciuri</i>
2967	<i>Legionella anisa</i>	3087	<i>Rothia mucilaginosa</i>
2969	<i>Legionella parisiensis</i>	3171	<i>Gordonia bronchialis</i>
2970	<i>Legionella spiritensis</i>	3172	<i>Neisseria gonorrhoeae</i>
2971	<i>Legionella hackeliae</i>	3173	<i>Neisseria gonorrhoeae</i>
2972	<i>Legionella hackeliae</i>	3174	<i>Neisseria gonorrhoeae</i>
2973	<i>Tatlockia maceachernii</i>	3175	<i>Neisseria gonorrhoeae</i>
2976	<i>Legionella erythra</i>	3176	<i>Neisseria gonorrhoeae</i>
2977	<i>Clostridium perfringens</i>	3177	<i>Actinomyces neuii</i> subsp. <i>neuii</i>
2978	<i>Haemophilus influenzae</i>	3178	<i>Enterococcus faecalis</i>
2979	<i>Corynebacterium matruchoti</i>	3179	<i>Staphylococcus sciuri</i> subsp. <i>sciuri</i>
2980	<i>Rothia dentocariosa</i>	3180	<i>Staphylococcus sciuri</i> subsp. <i>sciuri</i>
2981	<i>Bacillus thuringiensis</i>	3181	<i>Cedecea davisae</i>
2988	<i>Escherichia coli</i>	3182	<i>Dermatophilus congolensis</i>
2989	<i>Streptococcus mitis</i>	3184	<i>Haemophilus influenzae</i>
2990	“ <i>Corynebacterium genitalium</i> ”	3185	<i>Acinetobacter calcoaceticus</i>
2991	“ <i>Corynebacterium pseudogenitalium</i> ”	3196	<i>Saccharomyces pastorianus</i>
2992	<i>Oerskovia turbata</i>	3197	<i>Haemophilus ducreyi</i>
2993	<i>Cellulosomicrobium cellulans</i>	3199	<i>Leuconostoc mesenteroides</i> subsp. <i>mesenteroides</i>
2994	<i>Lactobacillus delbrueckii</i> subsp. <i>delbrueckii</i>	3200	<i>Neisseria gonorrhoeae</i>
2995	<i>Bacillus coagulans</i>	3201	<i>Streptococcus pneumoniae</i>
2997	<i>Clostridium sporogenes</i>	3202	<i>Streptococcus pyogenes</i>
2999	<i>Penicillium chrysogenum</i>	3203	<i>Streptococcus pyogenes</i>
3000	<i>Rhizobium radiobacter</i>	3204	<i>Aerococcus viridans</i>
3001	<i>Legionella pneumophila</i>	3205	<i>Aeromonas hydrophila</i> subsp. <i>hydrophila</i>
3002	<i>Neisseria polysaccharea</i>	3206	<i>Gemella haemolysans</i>
3003	<i>Corynebacterium renale</i>	3226	<i>Salmonella Typhimurium</i>
3004	<i>Corynebacterium pseudotuberculosis</i>	3227	<i>Shigella sonnei</i>
3005	<i>Bacillus circulans</i>	3228	<i>Escherichia coli</i>
3007	<i>Pseudomonas aeruginosa</i>	3229	<i>Serratia odorifera</i>
3008	<i>Oligella urethralis</i>	3230	<i>Pediococcus acidilactici</i>
3009	<i>Haemophilus influenzae</i>	3231	<i>Exophiala spinifera</i>
3017	<i>Haemophilus influenzae</i>	3232	<i>Yarrowia lipolytica</i>
3018	<i>Haemophilus influenzae</i>	3234	<i>Leptospira</i> sp. serovar <i>hardjo</i>
3019	<i>Burkholderia gladioli</i>	3235	<i>Leptospira</i> sp. serovar <i>copenhagenii</i>
3020	<i>Escherichia coli</i>	3236	<i>Leptospira</i> sp. serovar <i>tarassovi</i>
3021	<i>Escherichia coli</i>	3237	<i>Leptospira</i> sp. serovar <i>ballum</i>
3022	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>	3238	<i>Leptospira</i> sp. serovar <i>canicola</i>
3023	<i>Rhodococcus equi</i>	3239	<i>Leptospira</i> sp. serovar <i>bratislava</i>
3024	<i>Listeria innocua</i>	3240	<i>Leptospira</i> sp. serovar <i>pomona</i>
3025	<i>Legionella pneumophila</i>	3241	<i>Eubacterium rectale</i>
3026	<i>Fluoribacter dumoffii</i>	3242	<i>Campylobacter jejuni</i> subsp. <i>jejuni</i>
3028	<i>Legionella israelensis</i>	3243	<i>Candida albicans</i>
3029	<i>Legionella pneumophila</i> subsp. <i>pneumophila</i>	3245	<i>Haemophilus influenzae</i>
3030	<i>Legionella pneumophila</i> subsp. <i>pneumophila</i>	3246	<i>Neisseria gonorrhoeae</i>
3031	<i>Legionella pneumophila</i> subsp. <i>pneumophila</i>	3247	<i>Neisseria sicca</i>
3032	<i>Legionella birminghamensis</i>	3248	<i>Proteus mirabilis</i>
3033	<i>Aeromonas sobria</i>	3249	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
3045	<i>Neisseria gonorrhoeae</i>	3250	<i>Streptococcus agalactiae</i>
3046	<i>Neisseria gonorrhoeae</i>	3251	<i>Trichophyton rubrum</i>
3047	<i>Neisseria gonorrhoeae</i>	3252	<i>Leptospira</i> sp. serovar <i>patoc</i>
3048	<i>Neisseria gonorrhoeae</i>	3253	<i>Staphylococcus epidermidis</i>
3049	<i>Neisseria gonorrhoeae</i>	3254	<i>Streptococcus salivarius</i>

3255	<i>Prevotella melaninogenica</i>	3369	<i>Veillonella parvula</i>
3256	<i>Porphyromonas assacharolytica</i>	3370	<i>Listeria monocytogenes</i>
3257	<i>Neisseria pharyngis</i>	3371	<i>Listeria monocytogenes</i>
3258	<i>Moraxella (Branhamella) caviae</i>	3372	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
3259	<i>Leptospira</i> sp. serovar <i>australis</i>	3373	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
3260	<i>Pseudomonas</i> sp.	3374	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
3262	<i>Escherichia coli</i>	3375	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
3283	<i>Corynebacterium striatum</i>	3376	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
3284	<i>Enterobacter intermedius</i>	3377	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
3285	<i>Rahnella aquatilis</i>	3378	<i>Staphylococcus</i> sp.
3286	<i>Listeria welshimeri</i>	3379	<i>Klebsiella pneumoniae</i> subsp. <i>pneumoniae</i>
3287	<i>Listeria seeligeri</i>	3381	<i>Clostridium acetobutylicum</i>
3288	<i>Legionella longbeachae</i>	3382	<i>Clostridium tetanomorphum</i>
3289	<i>Acinetobacter baumannii</i>	3384	<i>Listeria monocytogenes</i>
3290	<i>Achromobacter piechaudii</i>	3385	<i>Listeria monocytogenes</i>
3292	<i>Porphyromonas gingivalis</i>	3386	<i>Listeria monocytogenes</i>
3293	<i>Enterococcus casseliflavus</i>	3387	<i>Listeria monocytogenes</i>
3294	<i>Escherichia coli</i>	3388	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
3295	<i>Neisseria gonorrhoeae</i>	3389	<i>Vibrio parahaemolyticus</i>
3296	<i>Neisseria gonorrhoeae</i>	3390	<i>Vibrio parahaemolyticus</i>
3297	<i>Streptococcus sanguinis</i>	3391	<i>Vibrio parahaemolyticus</i>
3298	<i>Streptococcus mitis</i>	3392	<i>Pseudomonas aeruginosa</i>
3299	“ <i>Streptococcus milleri</i> ”	3393	<i>Candida parapsilosis</i>
3300	<i>Haemophilus influenzae</i>	3394	<i>Candida albicans</i>
3301	<i>Enterococcus faecalis</i>	3395	<i>Candida albicans</i>
3302	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>	3396	<i>Cryptococcus neoformans</i>
3303	<i>Aeromonas shubertii</i>	3397	<i>Cryptococcus neoformans</i>
3304	<i>Aeromonas veronii</i>	3398	<i>Candida glabrata</i>
3305	<i>Aeromonas caviae</i>	3399	<i>Streptococcus pneumoniae</i>
3306	<i>Aeromonas jandaei</i>	3400	<i>Klebsiella oxytoca</i>
3307	<i>Aeromonas media</i>	3401	<i>Proteus vulgaris</i>
3308	<i>Aeromonas trota</i>	3402	<i>Streptococcus bovis</i>
3309	<i>Escherichia coli</i>	3403	<i>Micrococcus luteus</i>
3310	<i>Geobacillus stearothermophilus</i>	3404	<i>Shewanella putrefaciens</i>
3311	<i>Pasteurella multocida</i> subsp. <i>multocida</i>	3405	<i>Acinetobacter</i> sp.
3312	<i>Listeria monocytogenes</i>	3406	<i>Chryseobacterium indologenes</i>
3313	<i>Weissella viridescens</i>	3407	<i>Klebsiella pneumoniae</i> subsp. <i>pneumoniae</i>
3314	<i>Lactobacillus fermentum</i>	3408	<i>Chryseobacterium meningosepticum</i>
3315	<i>Haemophilus influenzae</i>	3409	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
3316	<i>Arthrobacter cummingsii</i>	3410	<i>Staphylococcus epidermidis</i>
3317	<i>Arthrobacter globiformis</i>	3411	<i>Enterococcus durans</i>
3318	<i>Brevibacillus parabrevis</i>	3412	<i>Streptococcus bovis</i>
3319	<i>Bacillus sphaericus</i>	3413	<i>Streptococcus pneumoniae</i>
3320	<i>Brochothrix thermosphacta</i>	3414	<i>Streptococcus bovis</i>
3321	<i>Oligella ureolytica</i>	3415	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
3322	<i>Listeria seeligeri</i>	3416	<i>Haemophilus influenzae</i>
3323	<i>Legionella pneumophila</i>	3417	<i>Haemophilus paraphrophilus</i>
3324	<i>Legionella pneumophila</i>	3418	<i>Gardnerella vaginalis</i>
3325	<i>Legionella pneumophila</i>	3419	<i>Fingoldia magna</i>
3326	<i>Legionella pneumophila</i>	3420	<i>Candida albicans</i>
3327	<i>Legionella pneumophila</i>	3421	<i>Clostridium sordelli</i>
3330	<i>Neisseria gonorrhoeae</i>	3422	<i>Candida kefyr</i>
3331	<i>Clostridium tyrobutyricum</i>	3423	<i>Candida tropicalis</i>
3332	<i>Zygosaccharomyces rouxii</i>	3424	<i>Cryptococcus albidus</i>
3339	<i>Lactobacillus brevis</i>	3425	<i>Cryptococcus neoformans</i>
3340	<i>Listeria monocytogenes</i>	3426	<i>Candida glabrata</i>
3341	<i>Escherichia coli</i>	3427	<i>Cryptococcus uniguttulatus</i>
3362	<i>Streptococcus mutans</i>	3428	<i>Moraxella (Branhamella) catarrhalis</i>
3363	<i>Streptococcus sobrinus</i>	3429	<i>Bacillus cereus</i>
3364	<i>Neisseria subflava</i>	3430	<i>Bacillus cereus</i>
3365	<i>Streptococcus oralis</i>	3431	<i>Pasteurella multocida</i> subsp. <i>multocida</i>
3366	<i>Porphyromonas gingivalis</i>	3432	<i>Pasteurella multocida</i> subsp. <i>multocida</i>
3368	<i>Fusobacterium nucleatum</i> subsp. <i>polymorphum</i>	3433	<i>Pasteurella multocida</i> subsp. <i>multocida</i>

3434	<i>Pasteurella multocida</i> subsp. <i>multocida</i>	3532	<i>Bacteroides fragilis</i>
3435	<i>Pasteurella multocida</i> subsp. <i>multocida</i>	3533	<i>Rhodococcus coprophilus</i>
3436	<i>Pasteurella multocida</i> subsp. <i>multocida</i>	3534	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
3440	<i>Vibrio cholerae</i>	3535	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
3441	<i>Escherichia coli</i>	3536	<i>Escherichia coli</i>
3442	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>	3537	<i>Escherichia coli</i>
3443	<i>Legionella longbeachae</i>	3538	<i>Rhodococcus rhodochrous</i>
3444	<i>Legionella longbeachae</i>	3539	<i>Rhodococcus rhodochrous</i>
3445	<i>Legionella longbeachae</i>	3540	<i>Rhodococcus ruber</i>
3446	<i>Legionella longbeachae</i>	3541	<i>Rhodococcus rhodnii</i>
3447	<i>Legionella longbeachae</i>	3542	<i>Rhodococcus zopfii</i>
3448	<i>Legionella longbeachae</i>	3562	<i>Shigella boydii</i>
3449	<i>Listeria monocytogenes</i>	3563	<i>Shigella boydii</i>
3450	<i>Listeria monocytogenes</i>	3564	<i>Shigella boydii</i>
3451	<i>Legionella longbeachae</i>	3565	<i>Acinetobacter</i> sp.
3452	<i>Rhodococcus equi</i>	3566	<i>Rhodococcus fascians</i>
3453	<i>Rhodococcus equi</i>	3567	<i>Rhodococcus marinonascens</i>
3471	<i>Bordetella parapertussis</i>	3568	<i>Raoultella terrigena</i>
3472	<i>Proteus mirabilis</i>	3569	<i>Brochothrix campestris</i>
3473	<i>Proteus mirabilis</i>	3570	<i>Enterococcus sulfureus</i>
3474	<i>Proteus vulgaris</i>	3571	<i>Carnobacterium maltaromaticum</i>
3475	<i>Proteus vulgaris</i>	3572	<i>Carnobacterium divergens</i>
3476	<i>Shigella flexneri</i>	3573	<i>Vagococcus fluvialis</i>
3477	<i>Staphylococcus felis</i>	3574	<i>Enterococcus colombae</i>
3478	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>	3575	<i>Carnobacterium gallinarum</i>
3479	<i>Salmonella</i> Typhimurium	3576	<i>Carnobacterium mobile</i>
3480	<i>Actinobacillus pleuropneumoniae</i>	3577	<i>Vagococcus salmoninarum</i>
3481	<i>Escherichia coli</i>	3583	<i>Aerococcus urinae</i>
3484	<i>Salmonella</i> Enteritidis	3584	<i>Nocardia corynebacteroides</i>
3485	<i>Bacillus cereus</i>	3585	<i>Tsukamurella paurometabolum</i>
3486	<i>Bacillus cereus</i>	3586	<i>Rhodococcus erythropolis</i>
3487	<i>Kingella kingae</i>	3587	<i>Rhodococcus erythropolis</i>
3488	<i>Enterococcus faecalis</i>	3588	<i>Gordonia rubripertincta</i>
3489	<i>Streptococcus salivarius</i>	3589	<i>Rhodococcus opacus</i>
3490	<i>Tsukamurella paurometabolum</i>	3590	<i>Gordonia terrae</i>
3491	<i>Dermabacter hominis</i>	3591	<i>Nocardia transvalensis</i>
3492	<i>Bartonella henselae</i>	3592	<i>Rhodococcus fascians</i>
3493	<i>Malassezia furfur</i>	3593	<i>Rhodococcus globerulus</i>
3494	<i>Lactobacillus acidophilus</i>	3594	<i>Gordonia sputi</i>
3495	<i>Trichophyton mentagrophytes</i>	3595	<i>Yersinia enterocolitica</i> subsp. <i>enterocolitica</i>
3496	<i>Porphyromonas levii</i>	3596	<i>Yersinia enterocolitica</i> subsp. <i>enterocolitica</i>
3497	<i>Enterobacter cloacae</i>	3597	<i>Prevotella corporis</i>
3498	<i>Campylobacter fetus</i> subsp. <i>jejuni</i>	3598	<i>Prevotella buccae</i>
3499	<i>Campylobacter fetus</i> subsp. <i>fetus</i>	3599	<i>Bacteroides caccae</i>
3500	<i>Listeria ivanovii</i> subsp. <i>ivanovii</i>	3600	<i>Campylobacter jejuni</i> subsp. <i>jejuni</i>
3501	<i>Clostridium novyi</i>	3601	<i>Enterococcus faecalis</i>
3502	<i>Clostridium sporogenes</i>	3604	<i>Streptococcus pyogenes</i>
3503	<i>Moraxella (Moraxella) osloensis</i>	3605	<i>Clostridium difficile</i>
3504	<i>Serratia marcescens</i> subsp. <i>marcescens</i>	3606	<i>Eggerthella lenta</i>
3505	<i>Serratia marcescens</i> subsp. <i>marcescens</i>	3607	<i>Bordetella pertussis</i>
3506	<i>Abiotrophia defectiva</i>	3610	<i>Bacillus thuringiensis</i>
3507	<i>Stenotrophomonas maltophilia</i>	3614	<i>Escherichia coli</i>
3509	<i>Issatchenkia orientalis</i>	3615	<i>Bacteroides vulgatus</i>
3510	<i>Cryptococcus laurentii</i>	3616	<i>Escherichia coli</i>
3511	<i>Cryptococcus neoformans</i>	3617	<i>Salmonella</i> Salford
3514	<i>Thermoanaerobacterium thermosaccharolyticum</i>	3620	<i>Leuconostoc mesenteroides</i> subsp. <i>mesenteroides</i>
3515	<i>Legionella pneumophila</i> subsp. <i>pneumophila</i>	3622	<i>Dermabacter hominis</i>
3516	<i>Campylobacter jejuni</i> subsp. <i>doylei</i>	3623	<i>Corynebacterium amycolatum</i>
3517	<i>Streptococcus pneumoniae</i>	3624	<i>Turicella otitidis</i>
3528	<i>Legionella pneumophila</i> subsp. <i>fraseri</i>	3625	<i>Corynebacterium auris</i>
3529	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>	3628	<i>Haemophilus parainfluenzae</i>
3530	<i>Listeria grayi</i>	3629	<i>Leclercia adecarboxylata</i>
3531	<i>Geobacillus stearothermophilus</i>	3630	<i>Enterococcus pseudoavium</i>

3631	<i>Escherichia coli</i>	3936	<i>Bifidobacterium gallicum</i>
3632	<i>Salmonella Typhimurium</i>	3937	<i>Bifidobacterium longum</i>
3633	<i>Salmonella Typhimurium</i>	3938	<i>Bifidobacterium longum</i>
3646	<i>Salmonella Hindmarsh</i>	3941	<i>Bifidobacterium minimum</i>
3647	<i>Escherichia coli</i>	3942	<i>Bifidobacterium pseudocatenulatum</i>
3648	<i>Alloiococcus otitis</i>	3943	<i>Bifidobacterium pseudolongum</i> subsp. <i>globosum</i>
3649	<i>Salmonella Amsterdam</i> ¹⁵⁺	3944	<i>Bifidobacterium ruminantium</i>
3650	<i>Salmonella Heidelberg</i>	3945	<i>Bifidobacterium subtile</i>
3651	<i>Salmonella Ibadan</i>	3946	<i>Bifidobacterium longum</i>
3652	<i>Salmonella Kiambu</i>	3947	<i>Bifidobacterium thermophilum</i>
3653	<i>Salmonella Mbandaka</i>	3948	<i>Bifidobacterium thermophilum</i>
3654	<i>Salmonella Pakistan</i>	3949	<i>Pectobacterium carotovora</i> subsp. <i>carotovora</i>
3655	<i>Salmonella Rissen</i>	3950	<i>Xanthomonas campestris</i>
3657	<i>Salmonella Wein</i>	3968	<i>Aeromonas trota</i>
3658	<i>Turicella otitidis</i>	3969	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
3659	<i>Corynebacterium glucuronolyticum</i>	3970	<i>Salmonella Typhimurium</i>
3663	<i>Neisseria gonorrhoeae</i>	3971	<i>Acinetobacter haemolyticus</i>
3664	<i>Streptococcus pneumoniae</i>	3972	<i>Acinetobacter</i> sp.
3665	<i>Salmonella Amsterdam</i>	4013	<i>Burkholderia cenocepacia</i>
3666	<i>Salmonella London</i> ¹⁵⁺	4014	<i>Burkholderia multivorans</i>
3667	<i>Salmonella Sangera</i>	4015	<i>Burkholderia stabilis</i>
3673	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>	4016	<i>Burkholderia vietnamensis</i>
3674	<i>Bergeyella zoohelcum</i>	4017	<i>Arcobacter butzleri</i>
3675	<i>Campylobacter upsaliensis</i>	4018	<i>Arcobacter cryaerophilus</i>
3676	<i>Campylobacter hyointestinalis</i> subsp. <i>hyointestinalis</i>	4019	<i>Aeromonas jandaei</i>
3677	<i>Clostridium baratii</i>	4021	<i>Salmonella Brandenburg</i>
3678	<i>Actinomyces viscosus</i>	4022	<i>Salmonella Typhimurium</i>
3679	<i>Capnocytophaga sputigena</i>	4023	<i>Salmonella Typhimurium</i>
3680	<i>Escherichia coli</i>	4024	<i>Salmonella Brandenburg</i>
3681	<i>Klebsiella pneumoniae</i> subsp. <i>pneumoniae</i>	4025	<i>Salmonella Typhimurium</i>
3682	<i>Escherichia coli</i>	4026	<i>Salmonella Brandenburg</i>
3684	<i>Salmonella Brandenburg</i>	4027	<i>Escherichia coli</i>
3695	<i>Leclercia adecarboxylata</i>	4030	<i>Salmonella</i> sp.
3696	<i>Rahnella aquatilis</i>	4031	<i>Vibrio hollisae</i>
3697	<i>Acinetobacter baumannii</i>	4032	<i>Clostridium sordelli</i>
3699	<i>Aeromonas sobria</i>	4033	<i>Neisseria gonorrhoeae</i>
3768	<i>Actinomyces odontolyticus</i>	4034	<i>Pseudomonas aeruginosa</i>
3769	<i>Actinomyces viscosus</i>	4035	<i>Abiotrophia defectiva</i>
3772	<i>Achromobacter xylosoxidans</i> subsp. <i>xylosoxidans</i>	4037	<i>Enterococcus faecium</i>
3779	<i>Moraxella (Branhamella) catarrhalis</i>	4038	<i>Alicyclobacillus acidoterrestris</i>
3780	<i>Brevundimonas vesicularis</i>	4039	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
3784	<i>Campylobacter coli</i>	4040	<i>Salmonella Typhimurium</i>
3785	<i>Campylobacter jejuni</i>	4041	<i>Salmonella Typhimurium</i>
3786	<i>Campylobacter lari</i>	4042	<i>Salmonella Kingston</i>
3787	<i>Cardiobacterium hominis</i>	4046	<i>Salmonella Typhimurium</i>
3789	<i>Chryseobacterium indologenes</i>	4047	<i>Mycobacterium fortuitum</i> subsp. <i>fortuitum</i>
3792	<i>Clostridium limosum</i>	4055	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
3794	<i>Clostridium tertium</i>	4058	<i>Staphylococcus aureus</i> subsp. <i>aureus</i>
3799	<i>Eikenella corrodens</i>	4059	<i>Haemophilus influenzae</i>
3801	<i>Fusobacterium necrophorum</i> subsp. <i>necrophorum</i>	4060	<i>Streptococcus pneumoniae</i>
3926	<i>Bifidobacterium adolescentis</i>	4061	<i>Enterococcus faecalis</i>
3927	<i>Bifidobacterium adolescentis</i>	4062	<i>Vibrio cholerae</i>
3928	<i>Bifidobacterium angulatum</i>	4067	<i>Campylobacter upsaliensis</i>
3929	<i>Bifidobacterium asteroides</i>	4068	<i>Bordetella holmesii</i>
3930	<i>Bifidobacterium bifidum</i>	4069	<i>Candida albicans</i>
3931	<i>Bifidobacterium boum</i>	4070	<i>Candida albicans</i>
3932	<i>Bifidobacterium breve</i>	4071	<i>Candida albicans</i>
3933	<i>Bifidobacterium catenulatum</i>	4072	<i>Candida parapsilosis</i>
3934	<i>Bifidobacterium coryneforme</i>	4073	<i>Escherichia coli</i>
3935	<i>Bifidobacterium cuniculi</i>	4074	<i>Haemophilus influenzae</i>
		4075	<i>Klebsiella pneumoniae</i> subsp. <i>pneumoniae</i>
		4076	<i>Moraxella (Branhamella) catarrhalis</i>

4085	<i>Salmonella Braenderup</i>
4086	<i>Escherichia coli</i>
4087	<i>Shigella sonnei</i>
4088	<i>Listeria monocytogenes</i>
4093	<i>Corynebacterium kroppenstedtii</i>
4095	<i>Corynebacterium riegeltii</i>
4110	<i>Corynebacterium tuberculostearicum</i>
4172	<i>Bordetella holmesii</i>
4173	<i>Corynebacterium macginleyi</i>
4174	<i>Brevibacterium otitidis</i>
4175	<i>Zygosaccharomyces rouxii</i>

LIST OF MEDIA

This section lists the culture media referred to by number at the end of individual strain entries in the main body of the Catalogue. Detailed recipes are given for the few media which are not readily available commercially in dehydrated form or as prepared media, in which case only the name of the medium is given. It can be assumed that media from any reputable manufacturer are suitable, unless a specific brand is recommended in particular cases.

The medium recommended was used in most cases for preservation of the strain by freeze-drying.

Unless noted otherwise, media formulations given are sterilised by autoclaving at 121C for 15 minutes.

- 1 TRYPTICASE SOY AGAR (BBL) or TRYPTIC SOY AGAR (Difco), or TRYPTONE SOYA AGAR (Oxoid) or SOYBEAN-CASEIN DIGEST AGAR (Gibco)
- 2 5% SHEEP BLOOD AGAR
- 3 ENRICHED (SUPPLEMENTED) CHOCOLATE AGAR
- 4 ANAEROBIC BLOOD AGAR (NON-SELECTIVE) eg, Wilkins-Chalgren blood agar, Brain heart infusion blood agar
- 5 SABOURAUD DEXTROSE AGAR
- 6 LEGIONELLA (BCYE) AGAR
- 7 LACTOBACILLI MRS BROTH / AGAR (Difco) or MRS BROTH / AGAR (BBL, Oxoid) etc
- 8 CHARCOAL AGAR
- 9 COOKED (CHOPPED) MEAT MEDIUM
- 10 5% RABBIT BLOOD AGAR
- 11 BRUCELLA BROTH
- 12 BRAIN HEART INFUSION AGAR
- 13 SWEET POTATO / KUMERA AGAR

Day 1: Peel kumeras, weigh whole, then slice. Drop slices into water to avoid darkening on exposure to air.

Kumeras (sliced)	300.0 g
Distilled, deionised water	300.0 ml

Boil until mush, filter through muslin in strainer then through filter paper. Leave in fridge overnight.

Day 2:	Bacto agar	20.0 g
	Distilled, deionised water	700.0 ml

Dissolve on hot plate.

Measure volume of kumera liquid, add distilled deionised water to bring to 200.0 ml if necessary.

Add to the 700.0 ml dissolved agar. Mix.

Dispense as required. Sterilise 115C for 10 minutes.

Reference

Rush-Munro FM, Woodgyer AJ. A simple kumara (sweet potato) medium for the maintenance of cultures of fungi. In: Kuttin ES, Baum GL, editors. Human and animal mycology. Proceedings of the VII Congress of ISHAM, Jerusalem, Israel, March 11-16, 1979. Amsterdam : Excerpta Medica; 1980. p. 174-6.

- 14 CASMAN BLOOD AGAR (Casman medium base with 5% blood)

15 STREPTOMYCES MEDIUM

Glucose	4.0 g
Yeast extract	4.0 g
Malt extract	10.0 g
CaCO ₃	2.0 g

Adjust pH to 7.2 with KOH before adding agar

Agar	12.0 g
Distilled water	1000 ml

16 REVISED DUCREYI MEDIUM

Solution A:	Heart Infusion Broth (Difco 0038)	25.0 g
	Agar	15.0 g
	Distilled water	400.0 ml

Autoclave at 121C for 15 minutes.

Solution B:	Haemoglobin (BBL 11872)	10.0 g
	Distilled water	500.0 ml

Autoclave at 121C for 15 minutes.

Solution C:	Fetal bovine serum	100.0 ml
	IsoVitaleX (BBL 11876)	10.0 ml

Filter sterilise.

Aseptically combine Solutions A-C at 50C or less.

Dispense as required into sterile containers.

17 LACTOBACILLUS MEDIUM

Trypticase peptone (BBL)	10.0 g
Yeast extract	5.0 g
Tryptose	3.0 g
KH ₂ PO ₄	3.0 g
K ₂ HPO ₄	3.0 g
Salt Solution R (see below)	5.0 ml
Tween 80	1.0 ml
Sodium acetate	1.0 g
L-Cysteine HCl	200.0 mg
Glucose	5.0 g
Agar	20.0 g
Distilled water	1.0 L

Adjust pH to 6.3.

Salt Solution R:	MgSO ₄ .7H ₂ O	11.50 g
	FeSO ₄ .7H ₂ O	0.68 g
	MnSO ₄ .2H ₂ O	2.40 g
	H ₂ O	100.0 ml

Dispense as required and sterilise.

18 TOMATO JUICE, YEAST EXTRACT AND MILK

Filter canned tomatoes through paper or centrifuge them; use supernatant

Leave overnight at 10C.

Adjust pH to 7.0.

Combine

Skim milk	100.0 g
Tomato juice	100.0 ml
Yeast extract	5.0 g
Agar	15.0 g
Distilled water to	1.0 L

Dissolve, dispense as required and sterilise.

19 EMJH MEDIUM

20 MARINE AGAR

21 SCHAEDLER BLOOD AGAR

23 YEAST MALT EXTRACT AGAR (Difco 0770, ISP Medium 2)

24 CASEIN AGAR

Solution A:	Agar (Difco 0140)	10.0 g
	Distilled water	250.0 ml
Solution B:	Skim milk powder	50.0 g
	Distilled water	250.0 ml

Mix hot solutions together, dispense as required.

Sterilise 115C for 20 minutes.

25 THERMOACTINOPOLYSPORA MEDIUM

Phytone (BBL 11906)	15.0 g
Maltose	20.0 g
Yeast extract	2.0 g
Agar (if solid medium required)	15.0 g
Tap water	1.0 L

Adjust pH to 7.2.

Dispense as required and sterilise.

26 CORNMEAL AGAR (Difco 0386)

27 YM AGAR (Difco 0712)

28 BRAIN HEART INFUSION AGAR + 30 mg/L AMPICILLIN AND 30 mg/L STREPTOMYCIN

29 MEDIUM 1 WITH 64 mg/L NALIDIXIC ACID

30 McCONKEY AGAR WITH 100 mg/L NALIDIXIC ACID AND 20 mg/L KANAMYCIN SULPHATE