



Cawthron Institute

Client Number 34

Private Bag 2, Nelson Mail Centre, Nelson, 7042
98 Halifax Street East, The Wood, Nelson, 7010

Telephone 03 548-2319

www.cawthron.org.nz

Authorised Representative

Mrs Anneke van Laanen
Quality Manager – Analytical Science

Programme

Biological Testing Laboratory

Accreditation Number 40

Initial Accreditation Date 4 October 1976

Conformance Standard

ISO/IEC 17025:2017

General requirements for the competence of testing and calibration laboratories

Laboratory Services Summary

General Microbiology

- 1.03 Drugs and Pharmaceuticals
- 1.11 Foods
- 1.12 Waters
- 1.13 Cosmetics, Perfumes and Essential Oils
- 1.71 Biological Condition

Micro-Algae

- 1.81 Environmental Biology – Micro-Algae

Molecular Biology

- 1.11 Foods
- 1.71 Biological Condition

Key Technical Personnel

General Microbiology

| | |
|--------------------|------------------------------|
| Ms Pam Curtis | 1.03, 1.11, 1.12, 1.13, 1.71 |
| Mr Mark Englefield | 1.03, 1.11, 1.12, 1.13, 1.71 |
| Mrs Krishna Harris | 1.03, 1.11, 1.12, 1.13, 1.71 |
| Mr Ryan Hunter | 1.03, 1.11, 1.12, 1.13, 1.71 |

Operations Manager
Authorisation:

Issue 88

Date:10/05/23

Page 1 of 8

CERTIFICATE OF ACCREDITATION



| | |
|--------------------------|---|
| Mr Sarbjit Singh | 1.03, 1.11, 1.12, 1.13, 1.71 |
| Micro-Algae | |
| Ms Sacha Astill | 1.81 (marine; selected) |
| Mrs Penny Harrison | 1.81 (marine; selected) |
| Ms Simone Jarrett | 1.81 (marine; selected, freshwater; selected) |
| Ms Rita Lee | 1.81 (marine; selected) |
| Mr Daniel List | 1.81 (freshwater; selected) |
| Ms Catherine Moisan | 1.81 (marine; selected) |
| Ms Sumali Nanayakkara | 1.81 (freshwater; selected) |
| Ms Sally Robinson | 1.81 (marine; selected) |
| Molecular Biology | |
| Ms Pam Curtis | 1.11, 1.71 |
| Mr Mark Englefield | 1.11, 1.71 |
| Mrs Krishna Harris | 1.11, 1.71 |
| Mr Ryan Hunter | 1.11, 1.71 |
| Mr Sarbjit Singh | 1.11, 1.71 |

| | | | | |
|--------------------------------------|--|----------|---------------|-------------|
| Operations Manager Authorisation: | | Issue 88 | Date:10/05/23 | Page 2 of 8 |
|--------------------------------------|--|----------|---------------|-------------|



Cawthron Institute
 Biological Testing Laboratory
SCOPE OF ACCREDITATION

Accreditation Number 40

General Microbiology

1.03 Drugs and Pharmaceuticals

(j) Nutraceuticals

These terms of accreditation provide for the performance of the following tests to methods such as those from the references listed below except where otherwise indicated.

| | |
|--|---|
| Aerobic plate count | APHA Ch. 8 |
| Aerobic plate count | BP |
| <i>Bacillus cereus</i> | APHA Ch. 31 (modified) |
| Bile Tolerant gram-negative bacteria | BP |
| Coliforms | APHA 9.72 |
| <i>Cronobacter sakazakii</i> | ISO / TS 22964:2017 |
| <i>E. coli</i> | APHA 9.93 (modified) |
| <i>E. coli</i> | BP |
| Enterobacteriaceae | APHA 9.61 |
| Enterobacteriaceae | APHA 9.62 |
| Faecal coliforms | APHA 9.81 (modified) |
| Lactobacillus in Probiotics, count | APHA Standard Methods for Dairy Products 17 th Edition:2004 (modified) |
| Listeria | FDA BAM online |
| <i>Pseudomonas aeruginosa</i> | BP |
| Salmonella | BP |
| Salmonella | ISO 6579-1:2017 (amendment 1:2020) |
| <i>Staphylococcus aureus</i> | BP |
| Staphylococci | AOAC 2003.07 |
| Staphylococci | ISO 6888-1:2021 (amendment:2018) |
| <i>Streptococcus salivarius</i> in Probiotics, count | Customer supplied method |
| Yeast and moulds | BP |

1.11 Foods

- (a) Cereals and cereal products**
- (c) Nuts, fruits, vegetables and derived products**
- (d) Sauces, herbs, spices and condiments**
- (f) Dairy products**
- (g) Meat, poultry and derived products**
- (h) Fish and fish products**
- (i) Eggs and egg products**
- (j) Alcoholic beverages**
- (k) Non-alcoholic beverages**

| | | | | |
|--------------------------------------|--|----------|---------------|-------------|
| Operations Manager Authorisation: | | Issue 88 | Date:10/05/23 | Page 3 of 8 |
|--------------------------------------|--|----------|---------------|-------------|



Cawthron Institute
 Biological Testing Laboratory
SCOPE OF ACCREDITATION

Accreditation Number 40

- (p) Canned foods**
- (q) Animal feeds**

These terms of accreditation provide for the performance of the following tests to methods such as those from the references listed below except where otherwise indicated.

| | |
|--|---|
| Aerobic plate count | APHA Ch. 8 |
| Aerobic Plate Count (Petrifilm) | AOAC 989.10 |
| Aerobic Plate Count at 30°C | ISO 4833-1:2013 |
| Aerobic Plate Count at 30°C | ISO 4833-2:2013 |
| Anaerobic viable count | APHA Ch. 6 / Ch. 8 |
| <i>Bacillus cereus</i> | APHA Ch. 31 (modified) |
| Campylobacter | FDA BAM online |
| <i>Clostridium perfringens</i> | ISO 7937:2004 |
| Coagulase positive Staphylococci | ISO 6888-1:2021 (2003 Amendment) |
| Coagulase positive Staphylococci | AOAC 2003.07 |
| Coagulase positive Staphylococci | AOAC 2003.11 |
| Coliforms | APHA 9.72 |
| Coliforms | APHA 9.935 |
| Coliforms (Direct Plating) | ISO 4832:2006 |
| <i>Cronobacter sakazakii</i> | ISO / TS 22964:2017 |
| <i>E. coli</i> and Coliforms (LST-MUG) | ISO 11866-1:2005 (modified) |
| <i>E. coli</i> | APHA 9.93 (modified) |
| <i>E. coli</i> | APHA 9.935 |
| Enterobacteriaceae | APHA 9.61 |
| Enterobacteriaceae | APHA 9.62 |
| Enterobacteriaceae | APHA 9.631 |
| Faecal coliforms – MPN | APHA 9.81 (modified) |
| Lactobacillus count | APHA standard methods for Dairy Products 17 th Ed:2004 (modified) |
| <i>Listeria monocytogenes</i> | Biocontrol VIP |
| <i>Listeria monocytogenes</i> | FDA BAM online |
| <i>Listeria monocytogenes</i> | ISO 11290-2:2017 |
| Listeria species | Biocontrol VIP |
| Listeria species | FDA BAM online |
| Salmonella | ISO 6579-1:2017 (amendment 1:2020) |
| Shigella | APHA Ch. 37 |
| Sulphite reducing anaerobes | ISO 15213:2003 |
| <i>Vibrio cholerae</i> – P/A | FDA BAM online |
| <i>Vibrio parahaemolyticus</i> – MPN | FDA BAM online |
| <i>Vibrio parahaemolyticus</i> – P/A | FDA BAM online (modified) |
| <i>Vibrio vulnificus</i> – MPN | FDA BAM online |
| <i>Vibrio vulnificus</i> – P/A | FDA BAM online (modified) |
| Yeasts and moulds | AOAC 997.02 |
| Yeasts and moulds | BP |

| | | | | |
|--------------------------------------|--|----------|---------------|-------------|
| Operations Manager Authorisation: | | Issue 88 | Date:10/05/23 | Page 4 of 8 |
|--------------------------------------|--|----------|---------------|-------------|



Cawthron Institute
 Biological Testing Laboratory
SCOPE OF ACCREDITATION

Accreditation Number 40

1.12 Waters

- (a) Potable waters
- (b) Non-potable waters
- (c) Sewage
- (d) Effluent and trade wastes
- (f) Swimming and spa pools
- (g) Marine waters

The following tests are in accordance with APHA “Standard Methods for the Examination of Water and Wastewater” (Online Edition) except where otherwise indicated.

| | |
|--|----------------|
| <i>E. coli</i> – Colilert MPN | 9223 B |
| <i>E. coli</i> – Colilert Quantitray (51 well) | 9223 B |
| <i>E. coli</i> – Colilert Quantitray (97 well) | 9223 B |
| <i>E. coli</i> – Colilert-18 Quantitray (51 well) | 9223 B |
| <i>E. coli</i> – Colilert-18 Quantitray (97 well) | 9223 B |
| <i>E. coli</i> – MF | 9222 G |
| <i>E. coli</i> – MPN | 9221 F |
| Enterococci | 9230 D |
| Enterococci (MPN) | 9230 B |
| Faecal coliforms – MF | 9222 D |
| Faecal coliforms – MPN | 9221 E |
| Heterotrophic plate count | 9215 B |
| <i>Pseudomonas aeruginosa</i> | 9213 E |
| <i>Staphylococcus aureus</i> | 9213 B |
| Total coliforms – Colilert MPN | 9223 B |
| Total coliforms – Colilert Quantitray (51 well) | 9223 B |
| Total coliforms – Colilert Quantitray (97 well) | 9223 B |
| Total coliforms – Colilert-18 Quantitray (51 well) | 9223 B |
| Total coliforms – Colilert-18 Quantitray (97 well) | 9223 B |
| Total coliforms – MF | 9222 B |
| Total coliforms – MPN | 9221 B |
| Vibrio species | FDA BAM online |

1.13 Cosmetics, Perfumes and Essential Oils

- (a) Microbiological quality (including sterility)

In accordance with methodology from the CTFAA Code of Good Manufacturing Practice 1989

Aerobic plate count
 Yeasts and moulds (modified)

| | | | | |
|--------------------------------------|--|----------|---------------|-------------|
| Operations Manager Authorisation: | | Issue 88 | Date:10/05/23 | Page 5 of 8 |
|--------------------------------------|--|----------|---------------|-------------|



Cawthron Institute
 Biological Testing Laboratory
SCOPE OF ACCREDITATION

Accreditation Number 40

1.71 Biological Condition

(b) Plant hygiene evaluation

These terms of accreditation provide for the performance of the following tests on environmental swabs to methods such as those listed under class of test 1.11 above.

| | |
|--|------------------------------------|
| Aerobic viable count | APHA Ch. 8 |
| Coliforms | APHA 9.72 |
| Coliforms | APHA 9.935 |
| <i>E. coli</i> | APHA 9.93 (modified) |
| <i>E. coli</i> | APHA 9.935 |
| Enterobacteriaceae | APHA 9.62 |
| Enterobacteriaceae | APHA 9.631 |
| <i>Listeria monocytogenes</i> | Biocontrol VIP |
| <i>Listeria monocytogenes</i> | FDA BAM online |
| Listeria species | Biocontrol VIP |
| Listeria species | FDA BAM online |
| Salmonella | ISO 6579-1:2017 (amendment 1:2020) |
| <i>Streptococcus salivarius</i> detection in swabs | Customer supplied method |
| Yeasts and Moulds | AOAC 997.02 |

Micro-Algae

1.81 Environmental Biology – Micro-Algae

(c) Identification of micro-organisms in waters

Marine waters

Identification and counting of marine phytoplankton

In-house method based on the UNESCO Phytoplankton Manual (1978) and IOC Manual & Guides 55 (2010)

Identification of Pseudo-nitzschia species using whole cell DNA probes

In accordance with Scholin C.A et al 1996, Phycologia 35, 190–197

Freshwater

Phytoplankton: enumeration and identification, relative abundance assessment identification

In-house method based on Hotzel and Croombe, 1999

Periphyton: relative abundance assessment and identification

In-house method based on Biggs and Kilroy, 2000

| | | | | |
|--------------------------------------|--|----------|---------------|-------------|
| Operations Manager Authorisation: | | Issue 88 | Date:10/05/23 | Page 6 of 8 |
|--------------------------------------|--|----------|---------------|-------------|



Cawthron Institute
 Biological Testing Laboratory
SCOPE OF ACCREDITATION

Accreditation Number 40

Cyanobacteria toxin genes: molecular detection of freshwater toxin genes from cyanobacteria in water samples by qPCR In-house method

Molecular Biology

1.11 Foods

- (a) Cereals and cereal products
- (b) Edible oils, fats and derived products
- (c) Nuts, fruits, vegetables and derived products
- (d) Sauces, herbs, spices and condiments
- (e) Sugar and sugar confectionery
- (f) Dairy products
- (g) Meat, poultry and derived products
- (h) Fish and fish products
- (i) Eggs and egg products
- (j) Alcoholic beverages
- (k) Non-alcoholic beverages
- (p) Canned foods
- (q) Animal feeds

| | |
|-------------------------------|--------------|
| <i>Listeria monocytogenes</i> | AOAC 2016-08 |
| <i>Listeria monocytogenes</i> | AOAC 2016-07 |
| Listeria species | AOAC 2016-07 |
| Salmonella (except 1.11 (j)) | AOAC 2016.01 |

1.71 Biological Condition

(b) Plant hygiene evaluation

| | |
|-------------------------------|--------------|
| <i>Listeria monocytogenes</i> | AOAC 2016-08 |
| <i>Listeria monocytogenes</i> | AOAC 2016-07 |
| Listeria species | AOAC 2016-07 |
| Salmonella | AOAC 2016.01 |

References:

AOAC AOAC International (Online edition)
 APHA American Public Health Association "Compendium of Methods for the Microbiological Analysis of Foods" (5th Edition)
 BP British Pharmacopoeia (Online Edition)
 FDA BAM US Food and Drug Administration Bacteriological Analytical Manual (8th Edition) 1995, or

| | | | | |
|--------------------------------------|--|----------|---------------|-------------|
| Operations Manager Authorisation: | | Issue 88 | Date:10/05/23 | Page 7 of 8 |
|--------------------------------------|--|----------|---------------|-------------|



Cawthron Institute
Biological Testing Laboratory
SCOPE OF ACCREDITATION

Accreditation Number 40

| | |
|-----------|--|
| ISO | Online Edition and subsequent amendments International Organization for Standardization |
| MIMM | Microbiological Methods for the Meat Industry (current Edition) and subsequent amendments |
| Petrifilm | 3M Petrifilm (Staph Express, Yeast and Mould, E. coli) |

Operations Manager
Authorisation:

Issue 88

Date: 10/05/23

Page 8 of 8