SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

QUALIFIED SpA – PUERTO MONTT
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BIOLOGICAL

Valid To: November 30, 2023 Certificate Number: 3921.08

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on food, fruits, vegetables, juices, wines, meat, dairy products, prepared meal, eggs, fat, flour, animal products and feed, drinking water, continental water, utility water, surfaces, utensils, ambiances, and handlers:

Test/Matrices	Test Method	Reference Method(s)
Detection (Presence/Absence)		
Cronobacter spp and *C. sakazaki* in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, Animal Products and Feed, Surfaces, Utensils, and Handlers	MQM-066	ISO 22964
Escherichia coli in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, Animal Products and Feed, Surfaces, Utensils, and Handlers – NMP	MQM-071	ISO 7251
Enterobacteriaceae in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, Animal Products and Feed, Surfaces, Utensils, and Handlers	MQM-076	ISO 21528
Listeria monocytogenes in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Flour, and Animal Products and Feed	MQM-003	NCh 2657
L. monocytogenes on Hands, Surfaces, and Utensils	MQM-031	NCh 2657
Listeria spp. in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, Animal Products and Feed, Surfaces, Utensils, and Handlers	MQM-047	NCh 2657
Mesophiles, Thermophiles, Aerobes and Anaerobes in Food, Canned Food, Fruits, Vegetables, Juices, Wines, Fat, Flour, and Animal Products and Feed	MQM-005	NCh 2731

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Test/Matrices	Test Method	Reference Method(s)
Salmonella in Food, Fruits, Vegetables, Juices, Wines, Meat, Dairy Products, Prepared Meal, Eggs, Fat, Flour, and Animal Products and Feed	MQM-006	NCh 2675
Salmonella on Hands, Surfaces, and Utensils	MQM-033	NCh 2675
Staphylococcus aureus – UEE in Hydrobiological Products and Fishery Products in General	MQM-062	GOST 31746-2012 ISO 6888 3:2003 Manual Inocuidad y certificación – Sernapesca
Total Coliforms in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, Animal Products and Feed, Surfaces, Utensils, and Handlers	MQM-074	NCh-ISO 4831
Total Coliforms in Food, Fruits, Vegetables, Juices, Wines, Meat, Dairy Products, Prepared Meal, Fat, Flour, and Animal Products and Feed	MQM-012	Método Ministerio Salud de Japón NCh 2635/2
Total Coliforms – UEE in Hydrobiological Products and Fishery Products in General	MQM-060	GOST R 52816-2007
Vibrio parahaemolyticus in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, Animal Products and Feed, Surfaces, Utensils, Handlers, Hydrobiological Products, and Fishery Products in General	MQM-067	ISO 21872-1
Enumeration – Plate Count		
Aerobic Mesophiles (30ºC) in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, Animal Products and Feed, Surfaces, Utensils and Handlers – P ate Count – UFC	MQM-075	ISO 4833-1
Aerobic Mesophiles (35ºC) in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, and Animal Products and Feed	MQM-021	NCh 2659
Aerobic Mesophiles (35ºC) – Free Sedimentation and Environments	MQM-039	Standard Methods for the Examination of Dairy Products – Free Sedimentation
Aerobic Mesophiles (35ºC) – Qualification on Ambiances, Surfaces, and Utensils	MQM-030	ABC Research NCh 2659
Aerobic Mesophiles (35ºC) on Hands, Surfaces, and Utensils	MQM-040	NCh 2659
Aerobic Mesophiles and Facultative Anaerobes – UEE in Hydrobiological Products and Fishery Products in General	MQM-063	GOST 10444.15-94 GOST 26669-85 GOST 26670-91 ISO 4833:2003

Test/Matrices	**Test Method**	**Reference Method(s)**
Bacillus cereus in Food, Fruits, Vegetables, Juices, Wines, Meat, Dairy Products, Prepared Meal, Fat, Flour, and Animal Products and Feed	MQM-010	BAM Ch. 14
Clostridium perfringens and Sulfite-Reducing Anaerobes in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Flour, and Animal Products and Feed	MQM-011	BAM Ch. 16
Cultivable Microorganisms (22ºC) in Drinking, Continental, and Utility Waters	MQM-068	UNE-EN ISO 6222:1999
Enterobacteriaceae in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, and Animal Products and Feed	MQM-016	NCh 2676
Enterobacteriaceae in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, Animal Products and Feed, Surfaces, Utensils, and Handlers	MQM-076	ISO 21528
Enterobacteriaceae on Hands, Surfaces, and Utensils	MQM-036	NCh 2676
E. coli in Food and Surfaces	MQM-053	ISO 16649-2
E.coli on Surfaces and Utensils	MQM-043	NCh 2636
Fecal Enterococci in Drinking, Continental, and Utility Waters	MQM-051	ISO 7899-2
Heterotrophs in Drinking, Continental, and Utility Waters	MQM-056	SM 9215-B
L. monocytogenes CFU in Food, Fruits, Vegetables, Juices, Wines, Fats, Meat, Dairy Products, Prepared Meals, Sugars, Eggs, Flour, and Animal Products and Feed	MQM-019	ISO 11290-2 NCh 2657/2
Molds – UEE – Free Sedimentation on Ambiances	MQM-065	- Instrucciones para la definición y evaluación de la contaminación con mohos del aire y paredes de las cámaras frigoríficas de las Normas Sanitarias para Frigoríficos (aprobadas por el Médico Sanitario General del Estado de la URSS el 29.09.1988 N4695-88) de la Unión Económica Euroasiática. -Normas sanitarias para frigoríficos (aprobadas por el Médico Sanitario General del Estado de la URSS el 29.09.1988 N4695-88) de la Unión Económica Euroasiática.

Test/Matrices	Test Method	Reference Method(s)
Molds – UEE in Hydrobiological Products and Fishery Products in General	MQM-064	- Instrucciones para la definición y evaluación de la contaminación con mohos del aire y paredes de las cámaras frigoríficas de las Normas Sanitarias para Frigoríficos (aprobadas por el Médico Sanitario General del Estado de la URSS el 29.09.1988 N4695-88) de la Unión Económica Euroasiática. -Normas sanitarias para frigoríficos (aprobadas por el Médico Sanitario General del Estado de la URSS el 29.09.1988 N4695-88) de la Unión Económica Euroasiática.
Mold and Yeast – Free Sedimentation on Ambiances	MQM-037	Standard Methods for the Examination of Dairy Products – Free Sedimentation
Mold and Yeast in Food, Fruits, Vegetables, Juices, Wines, Meat, Dairy Products, Prepared Meals, Sugar, Eggs, Fat, Flour, and Animal Products and Feed	MQM-018	NCh 2734
Mold and Yeast on Hands, Surfaces, and Utensils	MQM-038	NCh 2734
S. aureus-Coagulase Positive CFU/g in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meals, Sugar, Eggs, Flour, and Animal Products and Feed	MQM-023	NCh 2671
S. aureus on Handlers, Surfaces and Utensils	MQM-042	NCh 2671
S. aureus on Hands, Surfaces, and Utensils	MQM-041	NCh 2671
Total Coliforms in Food, Fruits, Vegetables, Juices, Wines, Meat, Dairy Products, Prepared Meal, Fat, Flour, and Animal Products and Feed	MQM-012	Método Ministerio Salud de Japón NCh 2635/2
Total Fecal Coliforms on Surfaces, Utensils, and Handlers	MQM-035	NCh 2635/2
Membrane Filtration		
C. perfringens in Drinking, Continental, and Utility Waters	MQM-073	DIRECTIVA 98/83 CE del consejo.
E. coli and Coliform Bacteria – Detection and Counting by Chromogenic in Drinking, Continental, and Utility Waters	MQM-027	NCh 9308/1; SM 9222B, 9222D, 9222G
L. monocytogenes in Drinking and Utility Waters	MQM-052	NCh 2657
Salmonella spp. in Drinking and Utility Waters	MQM-050	SM 9260B

Test/Matrices	Test Method	Reference Method(s)
Total Coliforms and *E. coli* in Drinking, Continental, and Utility Waters	MQM-026	NCh 1620/2 ME-02-2007
MPN		
E. coli in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, and Animal Products and Feed	MQM-017	NCh 2636
E. coli in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, Animal Products and Feed, Surfaces, Utensils, and Handlers – NMP	MQM-071	ISO 7251
S. aureus-Coagulase Positive MPN in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, and Animal Products and Feed	MQM-024	NCh 2828
Total Coliforms and *E. coli* in Drinking, Continental, and Utility Waters	MQM-025	NCh 1620/1 ME-01-2007
Total Coliforms in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, Animal Products and Feed, Surfaces, Utensils, and Handlers	MQM-074	NCh-ISO 4831
Total Coliforms – UEE in Hydrobiological Products and Fishery Products in General	MQM-061	GOST 26669-85 GOST R 52816-2007 ISO 4831
Total and Fecal Coliforms, and *E. coli* ISO in Drinking, Continental, and Utility Waters	MQM-028	SM 9221B, 9221E, 9221F
Total and Fecal Coliforms, and *E. coli* on Manipulators, Surfaces, and Utensils	MQM-048	NCh 2635/1, NCh 2636
Total and Fecal Coliforms in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Flour, and Animal Products and Feed	MQM-013	NCh 2635/1
V. parahaemolyticus in Hydrobiological Products and Fishery Products in General	MQM-055	BAM Ch. 9
Petrifilm Enumeration		
Aerobic Mesophiles in Food, Fruits, Vegetables, Juices, Meat, Dairy Products, Prepared Meals, Wines, Fat, Flour, Animal Products, Feed, Surfaces, Utensils, and Handlers	MQM-009	AOAC 990.12
Aerobic Mesophiles in Milk and Dairy Products	MQM-069	AOAC 986.33
Coliforms and *E. coli* in Food, Fruits, Vegetables, Meat, Dairy Products, Prepared Meals, Juices, Wines, Fat, Flour, Animal Products and Feed, Surfaces, Utensils, and Handlers	MQM-014	AOAC 991.14, 998.08

Test/Matrices	Test Method	Reference Method(s)
E.coli in Poultry and Seafood	MQM-072	AOAC 998.08
Enterobacteriaceae in Food, Fruits, Vegetables, Juices, Wines, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Fat, Flour, Animal Products and Feed, Surfaces, Utensils, and Handlers	MQM-015	AOAC 2003.01
Mold and Yeast – 3M™ Rapid Yeast and Mold Petrifilm™ in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, Animal Products and Feed, Surfaces, Utensils, and Handlers	MQM-058	AFNOR 3M 01/13-07-14
Mold and Yeast in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, Animal Products and Feed, Surfaces, Utensils, and Handlers	MQM-046	AOAC 997.02
S. aureus in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Pastas, Flour, and Animal Products and Feed	MQM-022	AOAC 2003.07, 2003.08
Total Coliforms in Milk and Dairy Products	MQM-070	AOAC 986.33, 989.10
VIDAS Detection		
E.coli O157 in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, Animal Products, and Feed	MQM-002	AFNOR N° BIO 12/25-05/09
L. monocytogenes in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Flour, Animal Products, Feed, Surfaces, Handler and Utensils	MQM-004	AFNOR N° BIO 12-11-03/04
L. monocytogenes on Surfaces, Handler and Utensils	MQM-032	AFNOR N°BIO 12-11-03/04
L. monocytogenes (VIDAS XPRESS) in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Sugar, Eggs, Flour, Animal Products, Feed, Surfaces, Utensils and Handlers	MQM-049	AFNOR N°BIO 12/27-02/10
Listeria spp. (VIDAS UP) in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Eggs, Flour, Animal Products, and Feed on Handlers, Surfaces and Utensils	MQM-057	AFNOR N°BIO 12/33-05/12
Salmonella in Food, Fruits, Vegetables, Juices, Wines, Fat, Meat, Dairy Products, Prepared Meal, Eggs, Flour, Animal Products, and Feed	MQM-008	AFNOR N°BIO 12/16-09/05
Salmonella (VIDAS) on Handlers, Surfaces, and Utensils	MQM-034	AFNOR N°BIO 12/16-09/05
PCR		

Test/Matrices	Test Method	Reference Method(s)
Detection of SARS-CoV-2 by Reverse Transcription and PCR on Surfaces, Utensils, Handlers, and Food	MQV-004	- CDC 2019-Novel Coronavirus (2019-nCoV) - Corman, et al 2020. Detection of 2019 novel coronavirus (2019-nCoV) by real-time RT-PCR. Euro Surveill 2020;25(3) - Jung et al, 2020. Comparative analysis of primer-probe sets for the laboratory confirmation of SARS-CoV-2. - Lu et al, 2020. US CDC Real-Time Reverse Transcription PCR Panel for Detection of Severe Acute Respiratory Syndrome Coronavirus 2. Emerg Infect Dis. 2020; 26(8):1654-1665. - Nalla et al, 2020. Compararive performance of SARS-CoV-2 detection assays using seven different primer/probe sets and one assay kit. J Clin Microbiol 2020 - Reina y Suarez, 2020. Evaluación de diferentes genes en la detección por RT-PCR del SARSCoV-2 en muestras respiratorias y su evolución en la infección. Rev Esp Quimioter. 2020; 33(4): 292–293. - Sieburth PJ, Irey M, Garnsey SM and Owens RA. 2002. The use of RT-PCR in the Florida citrus viroid indexing program. Pp. 230-239. In: Duran Vila N, Milne RG, and da Grafa JV (eds.). Proceedings of the 15th IOCV Conference. Riverside, CA. 456p. - Wang X, Zhou C, Tang K, Zhou Y and Li K. 2009. A rapid one-step multiplex RT-PCR assay for the simultaneous detection of five citrus viroids in China. European Journal Plant Pathology 124: 175-180.

Test/Matrices	Test Method	Reference Method(s)
Detection of *Salmonella* and *L. monocytogenes* by Duplex PCR Final Point on Surfaces, Utensils, Handlers, Waters, and Food	MQV-008	- Furrer et al, 1991. Detection and identification of *Listeria monocytogenes* in cooked sausage products and in milk by in vitro amplification of haemolysin gene fragments. J. Appl. Bacteriol. 70:372–379. - Shome, et al, 2011. Multiplex PCR assay for species identification of bovine mastitis pathogens. J. Appl. Microbiol. 111 (6):1349-1356. - Tsen, et al, 1994. Possible use of a polymerase chain reaction method for specific detection of *Salmonella* in beef. J. Ferment. Bioeng. 77:137–143. - Zhang et al, 2009. Simultaneous detection of *Listeria monocytogenes, Staphylococcus aureus, Salmonella enterica* and *Escherichia coli* O157:H7 in food samples using multiplex PCR method. J. Food Safety. 29(3): 348-363.
Detection of *S. aureus* and *E. coli* by Multiplex PCR Final Point on Surfaces, Utensils, Handlers, Waters, and Food	MQV-007	- Furrer et al, 1991. Detection and identification of *Listeria monocytogenes* in cooked sausage products and in milk by in vitro amplification of haemolysin gene fragments. J. Appl. Bacteriol. 70:372–379. - Shome, et al, 2011. Multiplex PCR assay for species identification of bovine mastitis pathogens. J. Appl. Microbiol. 111 (6):1349-1356. - Tsen, et al, 1994. Possible use of a polymerase chain reaction method for specific detection of *Salmonella* in beef. J. Ferment. Bioeng. 77:137–143. - Zhang et al, 2009. Simultaneous detection of *Listeria monocytogenes, Staphylococcus aureus, Salmonella enterica* and *Escherichia coli* O157:h7 in food samples using multiplex PCR method. J. Food Safety. 29(3): 348-363.

Test/Matrices	**Test Method**	**Reference Method(s)**
Detection of S. *aureus, Salmonella, L. monocytogenes*, and *E. coli* by Multiplex PCR Final Point on Surfaces, Utensils, Handlers, Waters, and Food	MQV-006	- Furrer et al, 1991. Detection and identification of *Listeria monocytogenes* in cooked sausage products and in milk by in vitro amplification of haemolysin gene fragments. J. Appl. Bacteriol. 70:372–379. - Shome, et al, 2011. Multiplex PCR assay for species identification of bovine mastitis pathogens. J. Appl. Microbiol. 111 (6):1349-1356. - Tsen, et al, 1994. Possible use of a polymerase chain reaction method for specific detection of *Salmonella* in beef. J. Ferment. Bioeng. 77:137–143. - Zhang et al, 2009. Simultaneous detection of *Listeria monocytogenes, Staphylococcus aureus, Salmonella enterica* and *Escherichia coli* O157:h7 in food samples using multiplex PCR method. J. Food Safety. 29(3): 348-363.

Test/Matrices	Test Method	Reference Method(s)
SARS-CoV-2 by RT-qPCR on Surfaces, Utensils, Handlers, and Food	MQV-002	- CDC 2019-Novel Coronavirus (2019-nCoV) - Corman, et al 2020. Detection of 2019 novel coronavirus (2019-nCoV) by real-time RT-PCR. Euro Surveill 2020;25(3) - Elfiky AA. SARS-CoV-2 RNA dependent RNA polymerase (RdRp) targeting: an in silico perspective. J Biomol Struct Dynamics [internet]. 2020 May. - Jung et al, 2020. Comparative analysis of primer-probe sets for the laboratory confirmation of SARS-CoV-2. - Lu et al, 2020. US CDC Real-Time Reverse Transcription PCR Panel for Detection of Severe Acute Respiratory Syndrome Coronavirus 2. Emerg Infect Dis. 2020; 26(8):1654-1665. - Nalla et al, 2020. Comparative performance of SARS-CoV-2 detection assays using seven different primer/probe sets and one assay kit. J Clin Microbiol 2020 - Onoda M, Martínez Chamorro MJ; Grupo de Patología Infecciosa de la Asociación Española de Pediatría de Atención Primaria. Pruebas diagnósticas de laboratorio de COVID-19 [internet]. España: Sociedad Española de Pediatría de Atención Primaria; abr. 2020. - Reina y Suarez, 2020. Evaluación de diferentes genes en la detección por RT-PCR del SARSCoV-2 en muestras respiratorias y su evolución en la infección. Rev Esp Quimioter. 2020; 33(4): 292–293.
Sensory Evaluation		
Species, Presentation, Appearance, Parasites, Smell, Color, and Texture in Salmon Fillet, Fresh or Processed Fish and Cephalopods, Frozen Fish and Cephalopods (Raw and Cooked)	MQM-077	Sernapesca Manual de Inocuidad y Certificación Parte II: Sección III Control de Exportación y Certificación y Sección IV Autorización y Control de Entidades de Análisis, Muestreo y Muestreadores

Test/Matrices	Test Method	Reference Method(s)
Species, Presentation, Appearance, Parasites, Smell, Color, Taste, and Texture in Smoked Fish Products	MQM-077	Sernapesca Manual de Inocuidad y Certificación Parte II: Sección III Control de Exportación y Certificación y Sección IV Autorización y Control de Entidades de Análisis, Muestreo y Muestreadores
Species, Presentation, Appearance, Smell, Color, and Texture in Frozen Bivalve Mollusks (Raw and Cooked)	MQM-077	Sernapesca Manual de Inocuidad y Certificación Parte II: Sección III Control de Exportación y Certificación y Sección IV Autorización y Control de Entidades de Análisis, Muestreo y Muestreadores

Accredited Laboratory

A2LA has accredited

QUALIFIED SpA – PUERTO MONTT

Puerto Montt, CHILE

for technical competence in the field of

Biological Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 19th day of October 2021.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3921.08
Valid to November 30, 2023

For the tests to which this accreditation applies, please refer to the laboratory's Biological Scope of Accreditation.