

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-Upon-Thames TW18 3HR, UK

 <p>4412</p> <p>Accredited to ISO/IEC 17025:2005</p>	SYNLAB Analytics & Services United Kingdom Limited	
	Issue No: 031 Issue date: 29 May 2018	
Unit 44 Nelson Park Colbourne Crescent Cramlington NE23 1WB	Contact: Dr E Abbot Tel: +44 (0) 191 243 0871 E-Mail: info@geneiuslabs.com Website: www.geneiuslabs.com	
Testing performed at the above address only		

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
FOODS AND FOOD PRODUCTS and ENVIRONMENTAL SWABS	<u>Allergen Tests</u> Detection (qualitative) and Determination (quantitative) of Gluten Quantitative Determination of Food Allergens	Documented In-house Methods: ALL001 using Veratox R5 Rapid ELISA kit Generic procedure FLX001 using commercial immunoassay (ELISA) kits under flexible scope
FOODS AND FOOD PRODUCTS and ENVIRONMENTAL SWABS	<u>Molecular Biology Tests</u> Meat Speciation. Qualitative detection of mitochondrial DNA from: Chicken, cow, goat, horse, pig, sheep and turkey	MEAT001 using manual extraction, PCR and QIAxcel electrophoresis
FOODS AND FOOD PRODUCTS	<u>Chemistry Tests</u> Ash Dietary fibre Fat (total)	Documented In-house Methods: CHEM014 based on BS 4401 Part 1 1998 by gravimetric determination CHEM012 based on AOAC Method 991.43 1. CHEM015 by acid hydrolysis based on BS 4401 Part 4: 1970 2. CHEM022 using CEM Smart Trac



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FOODS AND FOOD PRODUCTS (cont'd)	<u>Chemistry Tests</u> (cont'd) Fatty acid profile: - saturated, - monounsaturated - polyunsaturated trans fatty acids Hydroxyproline Moisture Nitrogen/Protein Sodium Sugars: - Total - Fructose - Glucose - Galactose - Lactose - Maltose - Sucrose	Documented In-house Methods: CHEM016 based on AOAC 996.06 using gas chromatography CHEM018 based on BS 4401 Part 11: 1995 1. CHEM013 by gravimetric determination 2. CHEM022 using CEM Smart Trac CHEM010 based on Kjeldahl AOAC Method 928.08 CHEM024 by Dumas 5E-TCN2200 Nitrogen analyser CHEM009 by atomic emission spectroscopy CHEM011 by HPLC



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FOODS AND FOOD PRODUCTS (cont'd)	<u>Chemistry Tests</u> (cont'd) Calculations based on results of accredited methods: <ul style="list-style-type: none"> - Added water - Apparent Fat Free Meat - Apparent Total Meat - Apparent Total Fish - Content - EU Meat Content - Total Carbohydrate - Carbohydrate (available) - Collagen - Collagen Protein Ratio - Excess Connective Tissue - Excess Fat - Total Energy - Salt (sodium chloride) 	Documented In-house Methods: CHEM020 by calculation
ENVIRONMENTAL SWABS	<u>Microbiological Tests</u> Detection of: <i>Campylobacter</i> spp., confirmed <i>Escherichia coli</i> 0157 specific DNA (presumptive)	Documented In-house Methods: MIC1024 based on BS EN ISO 10272-1:2006 confirmed using 16S DNA sequencing procedure MIC1011 MIC 1072 enrichment and PCR assay based on PD CEN ISO/TS 13136:2012 using spin column manual or QIAgen, QIAextractor automated extraction, PCR and QIAxcel electrophoresis. Positive results confirmed using 16S DNA sequencing procedure MIC 1011



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ENVIRONMENTAL SWABS (cont'd)	<p><u>Microbiological Tests</u> (cont'd)</p> <p><i>Listeria</i> species including <i>Listeria monocytogenes</i></p> <p><i>Listeria monocytogenes</i>, specific DNA confirmed</p> <p><i>Listeria</i> spp., specific DNA confirmed for absence</p> <p><i>Salmonella</i> spp., confirmed</p>	<p>Documented In-house Methods:</p> <p>1) MIC1019 based on BS EN ISO 11290-1:1997 (withdrawn) identified using DNA sequencing MIC1066</p> <p>2) MIC1049 based on BS EN ISO 11290-1:1997 (withdrawn), BS 5763-18:1997 and customer specified method, confirmed using 16S DNA sequencing procedure MIC1066</p> <p>MIC1036 using spin column extraction and /or QIAgen QIAxtractor automated extraction, PCR and QIAxcel electrophoresis</p> <p>MIC1058 using spin column extraction, and /or QIAgen QIAxtractor automated extraction, PCR and QIAxcel electrophoresis , positive culture isolates confirmed using 16S DNA sequencing procedure MIC1011</p> <p>MIC1023 based on BS EN ISO 6579:2017 + A1:2007 identified using DNA sequencing procedures MIC1046</p>



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ENVIRONMENTAL SWABS (cont'd)	<p><u>Microbiological Tests</u> (cont'd)</p> <p>Detection of: (cont'd)</p> <p><i>Salmonella</i> spp specific DNA</p> <p>Enumeration of :</p> <p>Aerobic Colony Count at 30°C</p> <p>Coliforms at 37°C (presumptive)</p> <p>Enterobacteriaceae (presumptive)</p> <p>β-glucuronidase positive <i>Escherichia coli</i> (presumptive)</p> <p>Lactic Acid Bacteria (presumptive)</p> <p>Coagulase-positive <i>Staphylococcus</i> (confirmed)</p> <p>Yeasts and Moulds</p>	<p>Documented In-house Methods:</p> <p>MIC1046 using spin column extraction, and /or QIAgen QIAxtractor automated extraction , PCR and QIAxcel electrophoresis</p> <p>1) MIC1004 based on BS EN ISO 4833-1:2013 at 72 hours</p> <p>2) MIC1004 at 48 hours (client specified)</p> <p>MIC1017 based on BS ISO 4832:2006</p> <p>MIC1018 based on BS ISO 21528-2:2004</p> <p>1) MIC1022 based on BS ISO 16649-2:2001</p> <p>2) MIC1047 customer specified method</p> <p>MIC1045 based on BS ISO 15214:1998</p> <p>MIC1021 based on BS EN ISO 6888-1:1999, confirmed using Prolab or Oxoid Staphytest latex agglutination kits</p> <p>MIC1005 based on BS ISO 21527-1:2008 using DRBC agar for foods >0.95 Aw</p>



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DAIRY PRODUCTS	<u>Microbiological Tests</u> Enumeration of: Aerobic Colony Count at 30°C <i>Pseudomonas</i> species (presumptive)	Documented In-house Methods: 1) MIC1004 based on BS EN ISO 4833-1:2013, using MPCA at 72 hours 2) MIC1004 at 48 hours (client specified) MIC1025 based on BS EN ISO 13720:2010
FOODS and FOOD PRODUCTS (general unless specified)	Detection of: <i>Campylobacter</i> spp., confirmed <i>Detection:</i> <i>Escherichia coli</i> 0157 specific DNA (presumptive) <i>Listeria</i> species including <i>Listeria monocytogenes</i>	MIC1024 based on BS EN ISO 10272-1: 2006 confirmed using 16S DNA sequencing procedure MIC1011 MIC 1072 enrichment and PCR assay based on PD CEN ISO/TS 13136:2012 using spin column manual or QIAgen QIAxtractor automated extraction, PCR and QIAxcel electrophoresis. Positive results confirmed using 16S DNA sequencing procedure MIC 1011 1) MIC1019 based on BS EN ISO 11290-1:1997 (withdrawn) identified using MIC1066 2) MIC1049 based on BS EN ISO 11290-1:1997 (withdrawn), BS 5763-18:1997 and customer specified method, confirmed using MIC1066



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FOODS and FOOD PRODUCTS (general unless specified) (cont'd)	Detection of (cont'd):	Documented In-house Methods
	<i>Listeria monocytogenes</i> , specific DNA confirmed for absence	MIC1036 using spin column extraction and /or QIAgen QIAxtractor automated extraction, PCR and QIAxcel electrophoresis
	<i>Listeria</i> spp, confirmed	MIC1058 using spin column extraction, and /or QIAgen QIAxtractor automated extraction PCR and QIAxcel electrophoresis. Isolates confirmed using MIC1066
	<i>Salmonella</i> spp, confirmed	MIC1023 based on BS EN ISO 6579:2002 + A1:2007 identified using MIC1046
	<i>Salmonella</i> spp specific DNA	MIC1046 using spin column extraction, and /or QIAgen QIAxtractor automated extraction, PCR and QIAxcel electrophoresis
	Enumeration of:	
	Aerobic Colony Count at 30°C	1) MIC1004 based on BS EN ISO 4833-1:2013 at 72 hours 2) MIC1004 at 48 hours (client specified)
	<i>Clostridium perfringens</i>	MIC1027 based on BS ISO 7937:2004 and customer specified method, confirmed using 16S DNA sequencing procedure MIC1011
	Coliforms at 37°C (presumptive)	MIC1017 based on BS ISO 4832:2006
	Enterobacteriaceae (presumptive)	MIC1018 based on BS ISO 21528-2:2004



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FOODS and FOOD PRODUCTS (general unless specified) (cont'd)	Enumeration of (cont'd): <i>β</i> -glucuronidase positive <i>Escherichia coli</i> Lactic Acid Bacteria (presumptive) <i>Listeria</i> species including <i>L. monocytogenes</i> Coagulase-positive <i>Staphylococcus</i> (confirmed) Sulphite reducing Clostridia (presumptive and confirmed) Yeasts and Moulds	Documented In-house Methods 1) MIC1022 based on BS ISO 16649-2:2001 2) MIC1047 based BS ISO 16649-2:2001 and customer specified method MIC1045 based on BS ISO 15214:1998 MIC1020 based on BS EN ISO 11290-2:1998, identified using MIC1066 MIC1021 based on BS EN ISO 6888-1:1999, confirmed using Prolab or Oxoid Staphytest latex agglutination kits MIC1056 based on BS ISO 15213:2003 with confirmation using DNA sequencing procedure MIC1011/1012 1) MIC1005 based on BS ISO 21527-1:2008 using DRBC agar for foods >0.95 Aw 2) MIC1005 based on BS ISO 21527-2:2008 using DG18 agar for foods between 0.95 and 0.6 Aw 3) MIC1005 based on BS ISO 21527-1:2008 using OSA agar for fruit juices and beverages



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FOODS and FOOD PRODUCTS (general unless specified) (cont'd)	Enumeration of (cont'd):	Documented In-house Methods
Breads, Dried Foods, Grains (cooked/uncooked), Condiments/Sauces & Dairy	<i>Bacillus cereus</i> (presumptive)	MIC1026 based on BS EN ISO 7923:2004
Meats & Meat Products	<i>Pseudomonas</i> species (presumptive)	MIC1025 based on BS EN ISO 13720:2010
Sea fish and Seafood Products	Detection of: <i>Vibrio parahaemolyticus</i> and <i>Vibrio cholerae</i>	MIC1048 based on DD ISO/TS 21872-1:2007 and customer specified method, confirmed with API 20NE
MICROBIAL CULTURES	<u>DNA Sequencing</u>	Documented In-house Methods:
	Microbial identification	MIC1011/1012 using 16S/28S DNA sequencing using ABI3730 DNA sequencer and ABI Microseq Database
	<u>Microbiological Tests</u>	Documented In-House Methods
Presumptive <i>Listeria</i> colony isolates	<i>Listeria</i> species confirmation and identification	MIC1066 using DNA extraction, PCR and QIAxcel electrophoresis
WATERS Drinking waters	<u>Microbiological Tests</u>	Documented In-House Methods:
	Enumeration of:	
	Total Aerobic Counts at 22°C and 37°C	MIC1028 based on the Microbiology of Drinking Water (2012) Part 7
(including bottled mineral water)	Coliforms and <i>Escherichia coli</i>	MIC1068 based on the Microbiology of Drinking Water (2009) Part 4B confirmed using DNA sequencing procedures MIC1011/1012
	Enterococci (Faecal Streptococci)	MIC1031 based on the Microbiology of Drinking Water (2010) Part 5 and BS ISO7899-2:2012



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WATERS Drinking waters (cont'd)	<u>Microbiological Tests</u> (cont'd) Enumeration of (cont'd): <i>Pseudomonas aeruginosa</i> (confirmed) Sulphite reducing Clostridia	Documented In-House Methods: MIC1033 based on Microbiology of Drinking Water (2010) Part 8 MIC1032 based on Microbiology of Drinking Water (2010) Part 6a
END		