OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

HALF FRASER SELECTIVE SUPPLEMENT SR0166G

HALF FRASER SELECTIVE SUPPLEMENT **SR0166G**

Formula

Vial contents (each vial is sufficient to supplement 2.25 litres of medium)

Ammonium iron (III) citrate	1.125 g
Nalidixic acid	22.5 mg
Acriflavine	28.125 mg

Description

A selective supplement for the isolation of *Listeria* spp.

Directions

Aseptically add 4ml 1:1 ethanol:sterile distilled water to 1 vial and invert gently to dissolve. Aseptically add the vial contents to 2.25 litres of sterile Fraser Broth Base (CM0895) prepared as directed and cooled to 50°C. Mix well and aseptically dispense into sterile containers.

Physical Characteristics

Orange/green pellet
Sterility - passes test

Microbiological Tests Using Optimum Inoculum Dilution

Control Media: Chromogenic Listeria Agar (ISO), Tryptone Soya Agar or Columbia Blood Agar Base enriched with 5% v/v horse blood, where appropriate

Tested in Fraser Broth Base CM0895

Reactions after incubation at 30 ± 2°C for 24 ± 2 hours

Inoculate 10ml quantities of medium to achieve 1-10 colony-forming units/ml (cfu/ml) of *Listeria monocytogenes*. Incubate broths at 30 ± 2°C for 24 ± 2 hours. Subculture onto Chromogenic Listeria Agar (ISO) (CM1084, SR0226 & SR0228) and incubate plates at 37 ± 2°C for 24 ± 2 hours.

Listeria monocytogenes	ATCC®7644
Listeria monocytogenes	ATCC®13932

A satisfactory result is represented by recovery of positive strains equal to or greater than a 4 log(10) increase.

Positive strains shall produce aesculin hydrolysis after 24 hours.

Reactions after incubation at 30 ± 2°C for 24 ± 2 hours

Inoculate 10ml quantities of medium to achieve >1E+03 cfu/ml. Incubate broths at 30 ± 2°C for 24 ± 2 hours.

Bacillus cereus	ATCC®10876	No aesculin hydrolysis (no blackening)

Negative strains are inhibited or shall produce a negative diagnostic reaction.

Productivity determined by qualitative testing in accordance with the methods and criteria described in ISO 11133:2014

Inoculation with mixed cultures

Inoculate 10ml quantities of medium to achieve 1 – 10 colony-forming units/ml (cfu/ml) of *Listeria monocytogenes*, to each add 1E+02 to 1E+03 cfu/ml of *Escherichia coli* and 1E+02 to 1E+03 cfu/ml of *Enterococcus faecalis.* Incubate broths at 30 ± 2°C for 25 ± 1 hour. Subculture onto Chromogenic Listeria Agar (ISO) (CM1084, SR0226 & SR0228) and incubate plates at 37 ± 2°C for 24 ± 2 hours

Reactions after incubation at 30 ± 2°C for 25 ± 1 hour

Listeria monocytogenes	ATCC®13932	WDCM00021	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC®8739	WDCM00012	No growth
+ *Enterococcus faecalis*	ATCC®19433	WDCM00009	No growth
Listeria monocytogenes	ATCC®13932	WDCM00021	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC®25922	WDCM00013	No growth
+ *Enterococcus faecalis*	ATCC®19433	WDCM00009	No growth
Listeria monocytogenes	ATCC®13932	WDCM00021	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC®8739	WDCM00012	No growth
+ *Enterococcus faecalis*	ATCC®29212	WDCM00087	No growth
Listeria monocytogenes	ATCC®13932	WDCM00021	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC®25922	WDCM00013	No growth
+ *Enterococcus faecalis*	ATCC®29212	WDCM00087	No growth
Listeria monocytogenes	ATCC®35152	WDCM00109	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC®8739	WDCM00012	No growth

+ *Enterococcus faecalis*	ATCC®19433	WDCM00009	No growth
Listeria monocytogenes	ATCC®35152	WDCM00109	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC®25922	WDCM00013	No growth
+ *Enterococcus faecalis*	ATCC®19433	WDCM00009	No growth
Listeria monocytogenes	ATCC®35152	WDCM00109	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC®8739	WDCM00012	No growth
+ *Enterococcus faecalis*	ATCC®29212	WDCM00087	No growth
Listeria monocytogenes	ATCC®35152	WDCM00109	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC®25922	WDCM00013	No growth
+ *Enterococcus faecalis*	ATCC®29212	WDCM00087	No growth

A satisfactory result is represented by recovery of >10 cfu of *Listeria monocytogenes* on Chromogenic Listeria Agar (ISO).

Selectivity determined by qualitative testing based on the methods described in ISO 11133:2014

Inoculation with pure cultures

Inoculate 10ml quantities of medium to achieve 1E+03 to 1E+04 colony-forming units/ml (cfu/ml) of *Escherichia coli* and *Enterococcus faecalis.* Incubate broths at 30 ± 2°C for 25 ± 1 hour. Subculture onto Chromogenic Listeria Agar (ISO) (CM1084, SR0226 & SR0228) and Tryptone Soya Agar (CM0131) and incubate plates at 37 ± 2°C for 24 ± 2 hours.

Reactions after incubation at 30 ± 2°C for 25 ± 1 hour

Escherichia coli	ATCC®8739	WDCM00012	No growth (CM1084, SR0226 & SR0228) No growth or cream colonies (CM0131)
Escherichia coli	ATCC®25922	WDCM00013	No growth (CM1084, SR0226 & SR0228) No growth or cream colonies (CM0131)
Enterococcus faecalis	ATCC®19433	WDCM00009	No growth (CM1084, SR0226 & SR0228) No growth or cream colonies (CM0131)
Enterococcus faecalis	ATCC®29212	WDCM00087	No growth (CM1084, SR0226 & SR0228) No growth or cream colonies (CM0131)

A satisfactory result is represented by no growth of *Escherichia coli* and *Enterococcus faecalis* on Chromogenic Listeria Agar (ISO).

On Tryptone Soya Agar, a satisfactory result is represented by less than or equal to 1E+04 cfu/ml (equivalent to less than or equal to 100 cfu/10µl) for *Escherichia coli* and by less than or equal to 1E+06 cfu/ml (equivalent to less than or equal to 1E+04 cfu/10µl) for *Enterococcus faecalis*.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

HALF FRASER SELECTIVE SUPPLEMENT SR0166G

Revision History

Section / Step	Description of Change	Reason for Change	Reference
Microbiological characteristics	Clarification of ISO 11133:2014 qualitative testing for mixed and pure cultures.	Change control	MOC-2022-0393

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

TRYPTONE SOYA BROTH (CM0129)

TRYPTONE SOYA BROTH **CM0129**

Typical Formula*

Pancreatic digest of casein	grams per litre	17.0
Enzymatic** digest of soya bean		3.0
Sodium chloride		5.0
Di-potassium hydrogen phosphate		2.5
Glucose		2.5

** contains papain

* adjusted as required to meet performance standards

Directions

Dissolve 30g in 1 litre of water (purified, as required) and distribute into final containers. Sterilize by autoclaving at 121°C for 15 minutes.

Physical Characteristics

Straw, free-flowing powder
Colour on reconstitution - straw 2-3
Moisture level - less than 7%
pH 7.3 ± 0.2 at 25°C
Clarity - clear

Thermophiles and mesophiles shall be absent after incubation at 55°C and 37°C for 3 days.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

TRYPTONE SOYA BROTH (CM0129)

Microbiological Tests Using Optimum Inoculum Dilution

Control Medium: Tryptone Soya Agar, Columbia Blood Agar Base enriched with 5% v/v horse blood or Sabouraud Dextrose Agar, where appropriate

Reactions after incubation at 30-35°C for 18-24 hours

Medium is challenged with 10-100 colony-forming units

Streptococcus pyogenes	ATCC® 19615	Turbid growth

A satisfactory result is represented by visible growth.

Tested in accordance with current CLSI M22 A

Reactions after incubation at 33-37°C for 18-24 hours

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Escherichia coli	ATCC® 25922	Turbid growth
Staphylococcus aureus	ATCC® 25923	Turbid growth

A satisfactory result is represented by visible growth.

Reactions after incubation at 33-37°C for 5 days

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Streptococcus pneumoniae	ATCC® 6305	Turbid growth

A satisfactory result is represented by visible growth.

Reactions after incubation at 33-37°C for 5 days under anaerobic conditions (for details refer to Oxoid Manual - Atmosphere Generation Systems)

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Bacteroides fragilis	ATCC® 25285	Turbid growth

A satisfactory result is represented by visible growth.

Tested in accordance with current USP/EP/BP/JP

Reactions after incubation at 30-35°C for 24 hours

Medium is challenged with 10-100 colony-forming units

Escherichia coli	ATCC® 8739	Turbid growth
Staphylococcus aureus	ATCC® 6538	Turbid growth
Pseudomonas aeruginosa	ATCC® 9027	Turbid growth
Salmonella abony	NCTC 6017	Turbid growth
Salmonella typhimurium	ATCC® 14028	Turbid growth

A satisfactory result is represented by visible growth.

Reactions after incubation at 30-35°C for 3 days

Medium is challenged with 10-100 colony-forming units

Bacillus subtilis	ATCC® 6633	Flocculent/surface growth
Kocuria rhizophila	ATCC® 9341	Turbid growth

A satisfactory result is represented by visible growth.

Reactions after incubation at 20-25°C for 48 hours

Medium is challenged with 10-100 colony-forming units

Bacillus subtilis	ATCC® 6633	Flocculent/surface growth
Candida albicans	ATCC® 10231	Flocculent/surface growth

A satisfactory result is represented by visible growth.

Reactions after incubation at 20-25°C for 5 days

Medium is challenged with 10-100 colony-forming units

Aspergillus brasiliensis	ATCC® 16404	White mycelia, black spores / no spores

A satisfactory result is represented by visible growth.

The Microbiological Quality Control of this product complies with the following pharmacopoeia;

1. European Pharmacopoeia: Current version.
   - 2.6.12 Microbiological Examination of Non-Sterile Products: Harmonised Method: Microbial Enumeration tests
   - 2.6.13 Microbiological Examination of Non-Sterile Products: Tests for Specified Microorganisms. B. Harmonised Method
2. United States Pharmacopoeia: Current version.
   - 61 Microbiological Examination of Non-Sterile Products: Microbial Enumeration tests.
   - 62 Microbiological Examination of Non-Sterile Products: Tests for Specified Microorganisms
3. Japanese Pharmacopoeia: Current version.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

TRYPTONE SOYA BROTH (CM0129)

Revision History

Section / Step	Description of Change	Reason for Change	Reference
N/A	Addition of CLSI testing Update to USP/EP/BP/JP testing	Change control	BT-CC-1475

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

TRYPTONE SOYA AGAR CM0131

TRYPTONE SOYA AGAR **CM0131**

(Casein soya bean digest agar)†
† EP, USP, JP, BP

Typical Formula*

Pancreatic digest of casein	grams per litre	15.0
Enzymatic** digest of soya bean		5.0
Sodium chloride		5.0
Agar		15.0

** contains papain

* adjusted as required to meet performance standards

Directions

Suspend 40g in 1 litre of water (purified, as required). Bring to the boil to dissolve completely. Sterilize by autoclaving at 121°C for 15 minutes. Mix well and pour into sterile Petri dishes.

Physical Characteristics

Straw, free-flowing powder
Colour on reconstitution - straw 1-2
Moisture level - less than or equal to 7%
pH 7.3 ± 0.2 at 25°C
Clarity - clear
Gel strength - firm, comparable to 15.0g/litre of agar

The medium is tested for compatibility using 7% v/v oxalated horse blood, defibrinated horse blood or defibrinated sheep blood. There shall be no evidence of lysis or darkening, after incubation at 37°C, 25°C and 4°C for 72 hours.

Microbiological Tests using Optimum Inoculum Dilution

Control Medium: Tryptone Soya Agar

Plain plates

Reactions after incubation at 30-35°C for 18-24 hours

Medium is challenged with 10-100 colony-forming units

Streptococcus pyogenes	ATCC®19615	0.25-0.5mm pale straw colonies

Streptococcus viridans	NCTC1080	0.25-0.5mm pale straw colonies
Staphylococcus aureus	ATCC®9144	0.5-1mm straw colonies
Staphylococcus epidermidis	ATCC®12228	1-2mm white/grey colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

Enriched with 7% v/v horse blood

Reactions after incubation at 37°C for 24 hours
Medium is challenged with 10-100 colony-forming units

Streptococcus pyogenes	ATCC®19615	0.25-0.5mm pale straw colonies, β haemolysis
Streptococcus viridans	NCTC1080	0.5-1mm grey/green colonies, α haemolysis
Streptococcus pneumoniae	ATCC®6305	0.5-1mm grey/green colonies, α haemolysis

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

Reactions after incubation at 37°C for 48 hours under microaerophilic conditions

Haemophilus influenzae	ATCC® 19418	Pinpoint-0.5mm colourless colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

Zones of growth/no growth surrounding X, V and X+V factor discs (DD0003, DD0004 and DD0005) when plain plates are inoculated with the following organisms and incubated at 37°C for 18 hours:

		X	V	X+V
Haemophilus influenzae	ATCC®9334	0	0	≥ 15mm
Haemophilus influenzae	ATCC®19418	0	0	≥ 15mm
Haemophilus influenzae	ATCC®49247	0	0	≥ 15mm
Haemophilus parainfluenzae	ATCC®33392	0	≥ 20mm	≥ 20mm

Zones of inhibition with Bacitracin discs (DD0002) shall be 10-20mm when 7% v/v horse blood plates are inoculated with *Streptococcus pyogenes* ATCC® 19615 and incubated at 37°C for 18 hours.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

TRYPTONE SOYA AGAR CM0131

Testing performed in accordance with ISO11133:2014

Plain plates

Reactions after incubation at 30 ± 2°C for 24 ± 2 hours

Medium is challenged with 50-120 colony-forming units

Bacillus cereus	ATCC®11778	WDCM00001	3-5mm irregular, straw colonies
Bacillus subtilis	ATCC®6633	WDCM00003	2-4mm irregular, straw colonies
Escherichia coli	ATCC®8739	WDCM00012	1-3mm cream colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

Reactions after incubation at 36 ± 2°C for 20 ± 2 hours

Medium is challenged with 50-120 colony-forming units

Escherichia coli	ATCC®25922	WDCM00013	1-3mm cream colonies
Escherichia coli	ATCC®11775	WDCM00090	1-3mm cream colonies
Escherichia coli	NCTC13167	WDCM00179	1-3mm cream colonies
Pseudomonas aeruginosa	ATCC®10145	WDCM00024	1-4mm straw colonies
Enterococcus faecalis	ATCC®29212	WDCM00087	0.5-2mm straw colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

Reactions after incubation at 37 ± 2°C for 24 ± 2 hours

Medium is challenged with 50-120 colony-forming units

Staphylococcus aureus	ATCC®25923	WDCM00034	0.5-1mm straw colonies
Listeria monocytogenes	ATCC®13932	WDCM00021	0.25-2mm straw colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

Reactions after incubation at 44 ± 2°C for 21 ± 3 hours

Medium is challenged with 50-120 colony-forming units

Escherichia coli	ATCC®8739	WDCM00012	1-3mm cream colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

Reactions after anaerobic incubation at 44 ± 2°C for 21 ± 3 hours

Medium is challenged with 50-120 colony-forming units

Clostridium perfringens	ATCC®13124	WDCM00007	1-2mm straw colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

Testing performed in accordance with current CLSI M22 A

Enriched with 5% Sheep Blood

Reactions after incubation at 35 ± 2°C for 21 ± 3 hours

Medium is challenged with 1E+02 to 1E+04 colony-forming units

Streptococcus pyogenes	ATCC®19615	0.5-1mm pale straw colonies, β haemolysis
Streptococcus pneumoniae	ATCC®6305	0.5-2mm grey/green colonies, α haemolysis
Staphylococcus aureus	ATCC®25923	1-2mm white/grey colonies
Escherichia coli	ATCC®25922	1-2mm straw colonies

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

TRYPTONE SOYA AGAR CM0131

Testing performed in accordance with current USP/EP/BP/JP

Plain plates

Reactions after incubation at 30-35°C for 24 hours

Medium is challenged with 10-100 colony-forming units

Staphylococcus aureus	ATCC®6538	0.5-1mm straw colonies
Escherichia coli	ATCC®8739	1-3mm cream colonies
Bacillus subtilis	ATCC®6633	2-4mm irregular, straw colonies
Pseudomonas aeruginosa	ATCC®9027	1-4mm straw colonies
Salmonella typhimurium	ATCC®14028	1-3mm straw colonies
Salmonella abony	NCTC6017	1-3mm straw colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

Reactions after incubation at 30-35°C for 5 days

Medium is challenged with 10-100 colony-forming units

Candida albicans	ATCC®10231	1-3mm cream colonies
Aspergillus brasiliensis	ATCC®16404	Greater than 10mm colonies, white mycelia, with/without black spores

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

The Microbiological Quality Control of this product complies with the following pharmacopoeia;

1. European Pharmacopoeia: Current version.
   2.6.12 Microbiological Examination of Non-Sterile Products: Harmonised Method: Microbial Enumeration tests
   2.6.13 Microbiological Examination of Non-Sterile Products: Tests for Specified Microorganisms. B. Harmonised Method
2. United States Pharmacopoeia: Current version.
   61 Microbiological Examination of Non-Sterile Products: Microbial Enumeration tests.
   62 Microbiological Examination of Non-Sterile Products: Tests for Specified Microorganisms
3. Japanese Pharmacopoeia: Current version.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

TRYPTONE SOYA AGAR CM0131

Revision History

Section / Step	Description of Change	Reason for Change	Reference
Entire document/ Microbiological Characteristics	Update to current format. Removal of duplicate results and obsolete statements/ Change *Haemophilus influenzae* from ATCC9344 to 9334. Change 44°C incubation time from 21 ± 2 hours to ± 3 hours.	Minor - Implementation of IVDR (2017746)	MOC-2022-0167

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

BISMUTH SULPHITE AGAR CM0201

BISMUTH SULPHITE AGAR **CM0201**

Typical Formula*

	grams per litre
Peptone	5.0
'Lab-Lemco' powder	5.0
Glucose	5.0
Di-sodium phosphate	4.0
Iron (II) sulphate	0.3
Bismuth sulphite indicator	8.0
Brilliant green	0.016
Agar	12.7

* adjusted as required to meet performance standards

Directions

Suspend 20g in 500ml of distilled water in a 1 litre flask. With frequent agitation, bring to the boil to dissolve completely. Cool to 50°C. Mix well to ensure even dispersion of the medium and pour 25ml into sterile Petri dishes. Allow the medium to solidify with the dish uncovered. Larger volumes may be prepared if great care is taken and adequate headspace is provided. DO NOT AUTOCLAVE. DO NOT OVERHEAT.

Physical Characteristics

Light green, free-flowing powder
Colour on reconstitution - light green
Moisture level - less than or equal to 7%
pH - 7.6 ± 0.2 at 25°C
Clarity - opaque
Gel strength - firm, comparable to 12.7g/litre of agar

Microbiological Tests Using Optimum Inoculum Dilution

Control Medium: Tryptone Soya Agar

Reactions after incubation at 37°C for 48 hours

Medium is challenged with 10-100 colony-forming units

Salmonella typhi	ATCC®19430	0.5-2mm black 'rabbit-eye' colonies with sheen
Salmonella typhimurium	ATCC®14028	0.25-2mm black colonies with sheen
Salmonella virchow	NCTC5742	0.25-2mm black colonies with sheen

Salmonella abony	NCTC6017	0.25-2mm black colonies with sheen
Salmonella poona	NCTC4840	0.25-2mm black colonies with sheen
Salmonella enteritidis	ATCC®13076	0.25-1.5mm green colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

Medium is challenged with 50-200 colony-forming units

Escherichia coli	ATCC®25922	No growth to 1.5mm green colonies
Escherichia coli	ATCC®8739	No growth to 1.5mm green colonies
Klebsiella pneumoniae	ATCC®13883	No growth to 3.5mm green colonies
Citrobacter freundii	ATCC®8090	0.5-1.5mm dark green colonies

A satisfactory result is represented by recovery equal to or less than 100% of the control medium.

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Staphylococcus aureus	ATCC®6538	No growth
Enterococcus faecalis	ATCC®29212	No growth
Pseudomonas aeruginosa	ATCC®9027	No growth to 1.0mm green colonies

Negative strains are inhibited. For *Pseudomonas aeruginosa* ATCC®9027, a satisfactory result is represented by a negative diagnostic reaction.

Equivalent results are obtained after incubation at 30-35°C for 48 hours.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

BISMUTH SULPHITE AGAR CM0201

Revision History

Section / Step	Description of Change	Reason for Change	Reference
Reactions after incubation at 37°C for 48 hours'	Clarifying acceptable colony sizes for *Klebsiella pneumoniae* ATCC®13883	Change Control	MOC-2022-1108

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

PLATE COUNT AGAR (ISO) (CM0325)

PLATE COUNT AGAR (ISO) **CM0325**
(Tryptone Glucose Yeast Agar)

Formula

Enzymatic digest of casein	grams per litre	5.0
Yeast extract		2.5
Glucose		1.0
Agar		9.0

Directions

Suspend 17.5g in 1 litre of distilled water. Dissolve by bringing to the boil with frequent stirring, mix and distribute into final containers. Sterilize by autoclaving at 121°C for 15 minutes.

Physical Characteristics

Straw, free flowing powder
Colour on reconstitution - straw 1-2
Moisture level - less than 7%
pH - 7.0 ± 0.2 at 25 °C
Clarity - clear
Gel Strength - firm, comparable to 9.0g/litre Agar

Thermophiles and Mesophiles shall be absent after incubation at 55ºC and 37ºC for 3 days.

Microbiological Tests Using Optimum Inoculum Dilution

Control Medium: Tryptone Soya Agar

Medium is challenged with 10-100 colony forming units

Standard plate counts are performed using Quality Control Organisms

Reactions after incubation at 30 ± 2°C for 48 ± 2 hours

Pour plate technique

Staphylococcus aureus	ATCC® 6538	0.5-2mm straw colonies
Staphylococcus aureus	ATCC® 6538P	0.5-2mm straw colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

PLATE COUNT AGAR (ISO) (CM0325)

Testing performed in accordance with ISO11133:2014

Reactions after incubation at 30 ± 2°C for 72 ± 3 hours

Pour plate technique

Medium is challenged with 50-120 colony forming units

Escherichia coli	ATCC® 25922	WDCM00013	1-3mm straw colonies
Escherichia coli	ATCC® 8739	WDCM00012	1-3mm straw colonies
Staphylococcus aureus	ATCC® 25923	WDCM00034	0.5-2mm straw colonies
Bacillus subtilis	ATCC® 6633	WDCM00003	0.5-2mm straw colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

PLATE COUNT AGAR (ISO) (CM0325)

Revision History

Section / Step	Description of Change	Reason for Change	Reference
N/A	Update to ISO	Change control	BT-CC-1902

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

X.L.D. MEDIUM CM0469

X.L.D. MEDIUM **CM0469**

Typical Formula*

Yeast extract	grams per litre	3.0
L-Lysine HCl		5.0
Xylose		3.75
Lactose		7.5
Sucrose		7.5
Sodium desoxycholate		1.0
Sodium chloride		5.0
Sodium thiosulphate		6.8
Ammonium iron (III) citrate		0.8
Phenol red		0.08
Agar		12.5

* adjusted as required to meet performance standards

Directions

Suspend 53g in 1 litre of distilled water. With frequent agitation, bring to the boil to dissolve completely. Cool to 50°C. Mix well and pour into sterile Petri dishes. DO NOT AUTOCLAVE. DO NOT OVERHEAT.

Physical Characteristics

Straw/pink, free-flowing powder
Colour on reconstitution - red
Moisture level - less than or equal to 7%
pH 7.4 ± 0.2 at 25°C
Clarity - clear
Gel strength - firm, comparable to 12.5g/litre of agar

Microbiological Tests Using Optimum Inoculum Dilution

Control Medium: Tryptone Soya Agar

Reactions after incubation at 37 ± 2°C for 24 ± 3 hours

Inoculation with mixed cultures using diminishing sweep technique

Medium is challenged with 1E+03 to 1E+05 colony-forming units (cfu) of *Salmonella* and *Shigella* spp. and 1E+05 to 1E+07 cfu for *Escherichia coli* ATCC®8739.

Salmonella abony	NCTC6017	1-3mm red colonies, black centre

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

X.L.D. MEDIUM CM0469

Salmonella enteritidis	ATCC®13076	1-2mm red colonies, black centre
Salmonella typhimurium	ATCC®14028	1-2mm red colonies, black centre
Salmonella virchow	NCTC5742	1-2mm red colonies, black centre
Salmonella arizonae	ATCC®13314	1-3mm red colonies, black centre
Salmonella nottingham	NCTC7832	1-3mm red colonies, black centre
Shigella sonnei	ATCC®9290	0.5-7mm irregular/smooth red colonies
Shigella flexneri	ATCC®12022	0.5-2mm irregular, red colonies

In mixed culture, using the diminishing sweep technique, a satisfactory result is represented by diagnostic reactions of Salmonellae and Shigellae strains and *Escherichia coli*. Clear differentiation must be seen and is based on the colour and morphology of the colonies.

Inoculation with pure cultures

Medium is challenged with 10-100 colony-forming units

Pseudomonas aeruginosa	ATCC®9027	No growth or 0.5-2mm red colonies

For *Pseudomonas aeruginosa* ATCC®9027, a satisfactory result is represented by recovery equal to or less than 90% of the control medium.

Proteus mirabilis	ATCC®12453	0.5-2mm orange/red colonies, with or without black centre, no swarming
Proteus mirabilis	ATCC®29906	0.5-2mm orange/red colonies, with or without black centre, no swarming
Serratia marcescens	ATCC®8100	1-2mm orange/yellow colonies
Citrobacter freundii	ATCC®8090	0.5-2mm yellow colonies
Klebsiella pneumoniae	ATCC®29665	2-4mm yellow, mucoid colonies

Other pure cultures are inhibited or shall produce colonies with a negative diagnostic reaction.

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Staphylococcus aureus	ATCC®6538	No growth

Negative strains are inhibited.

Inoculation using diminishing sweep technique

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Escherichia coli	ATCC®11775	No growth or 0.5-4mm yellow colonies

Escherichia coli ATCC®11775 is inhibited or shall produce colonies with a negative diagnostic reaction.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

X.L.D. MEDIUM CM0469

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Shigella sonnei	ATCC®25931	0.5-7mm irregular/smooth red colonies

Shigella sonnei ATCC®25931 shall produce colonies with a positive diagnostic reaction.

Equivalent results are obtained after incubation at 30-35°C for 24 hours.

Testing performed in accordance with ISO11133:2014

Reactions after incubation at 37 ± 2°C for 24 ± 3 hours

Medium is challenged with 50-120 colony-forming units

Salmonella enteritidis	ATCC®13076	WDCM00030	1-3mm red colonies, black centre
Salmonella typhimurium	ATCC®14028	WDCM00031	1-3mm red colonies, black centre

A satisfactory result is represented by recovery of equal to or greater than 70% of the control medium.

Medium is challenged with 1E+04 to 1E+05 colony-forming units

Escherichia coli	ATCC®8739	WDCM00012	No growth or 0.5-4mm yellow cols
Escherichia coli	ATCC®25922	WDCM00013	No growth or 0.5-4mm yellow cols

Inhibited strains shall produce no growth or at least a 1 log (10) reduction with a negative diagnostic reaction when compared to the control medium.

Inoculation using diminishing sweep technique

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Enterococcus faecalis	ATCC®29212	WDCM00087	No growth
Enterococcus faecalis	ATCC®19433	WDCM00009	No growth

Negative strains are inhibited.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

X.L.D. MEDIUM CM0469

Testing performed in accordance with current CLSI M22 A

Reactions after incubation at 35°C for 18-24 hours

Medium is challenged with 10-100 colony-forming units

Shigella flexneri	ATCC®12022	0.5-2mm irregular, red colonies
Salmonella typhimurium	ATCC®14028	1-2mm red colonies, black centre

A satisfactory result is represented by recovery of equal to or greater than 70% of the control medium.

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Enterococcus faecalis	ATCC®29212	No growth

Negative strains are inhibited.

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Escherichia coli	ATCC®25922	No growth or 0.5-4mm yellow cols

Inhibited strains shall produce no growth or at least a 1 log (10) reduction with a negative diagnostic reaction when compared to the control medium.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

X.L.D. MEDIUM CM0469

Revision History

Section / Step	Description of Change	Reason for Change	Reference
Microbiological Tests	Update to specification for *Shigella sonnei*	Change control	BT-CC-1911
Microbiological Tests	Salmonella and Shigella mixed culture testing changed from low number quantitative to high number qualitative testing.	Change control	BT-CC-2398

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

BUFFERED PEPTONE WATER (CM0509)

BUFFERED PEPTONE WATER **CM0509**

Formula

Peptone	grams per litre	10.0
Sodium chloride		5.0
Di-sodium phosphate		3.5
Potassium dihydrogen phosphate		1.5

Directions

Add 20g to 1 litre of distilled water. Mix well and distribute into final containers. Sterilize by autoclaving at 121°C for 15 minutes.

Physical Characteristics

Straw, free flowing powder
Colour on reconstitution - straw 2-3
Moisture level - less than 7%
pH - 7.2 ± 0.2 at 25ºC
Clarity - clear (single and double strength broth)
Buffering Capacity Test - passes test

Microbiological Tests Using Optimum Inoculum Dilution

Control Medium: Tryptone Soya Agar

Reactions after incubation at 37 ± 2°C for 18 ± 2 hours

Medium is challenged with 10-100 colony forming units

Salmonella nottingham	NCTC 7832	Turbid growth
Escherichia coli	ATCC® 11775	Turbid growth

A satisfactory result is represented by visible growth.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

BUFFERED PEPTONE WATER (CM0509)

Testing performed in accordance with ISO11133:2014

Reactions after incubation at 37 ± 2°C for 18 ± 2 hours

Medium is challenged with 10-100 colony forming units

Salmonella typhimurium	ATCC® 14028	WDCM 00031	Turbid growth
Salmonella enteritidis	ATCC® 13076	WDCM 00030	Turbid growth
Escherichia coli	ATCC® 8739	WDCM 00012	Turbid growth
Escherichia coli	ATCC® 25922	WDCM 00013	Turbid growth

A satisfactory result is represented by visible growth from an inoculum of 10-100 colony forming units.

Testing performed in accordance with ISO22964:2017

Reactions after incubation at 36 ± 2°C for 18 ± 2 hours

Medium is challenged with 10-100 colony forming units

Cronobacter sakazakii	ATCC® 29544	WDCM 00214	Turbid growth
Cronobacter muytjensii	ATCC® 51329	WDCM 00213	Turbid growth

A satisfactory result is represented by visible growth from an inoculum of 10-100 colony forming units.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

BUFFERED PEPTONE WATER (CM0509)

Revision History

Section / Step	Description of Change	Reason for Change	Reference
Entire document	Update to new template and addition of ISO22964:2017 section	Change control	BT-CC-1531

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

MILK PLATE COUNT AGAR CM0681

MILK PLATE COUNT AGAR **CM0681**
(Plate Count Agar with antibiotic free skim milk powder)

Typical Formula*

Tryptone	grams per litre	5.0
Yeast extract		2.5
Glucose		1.0
Antibiotic free skim milk		1.0
Agar		10.0

* adjusted as required to meet performance standards

Directions

Suspend 19.5g in 1 litre of distilled water. Bring to the boil to dissolve completely. Sterilize by autoclaving at 121°C for 15 minutes. Cool to 50°C. Mix well and pour into sterile Petri dishes or hold at 45°C when using the pour plate technique.

Physical Characteristics

Straw, free-flowing powder
Colour on reconstitution - straw 1-2
Moisture level - less than 7%
pH 6.9 ± 0.1 at 25°C
Molten clarity - clear or slight haze
Gel strength - firm, comparable to 10.0g/litre of agar

Thermophiles and mesophiles shall be absent after incubation at 55°C and 37°C for 3 days.

Microbiological Tests Using Optimum Inoculum Dilution

Control Medium: Tryptone Soya Agar

Inoculation using pour plate technique

Reactions after incubation at 30 ± 2°C for 48 ± 2 hours

Medium is challenged with 10-100 colony-forming units

Staphylococcus aureus	ATCC® 6538	0.5-2mm straw colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

MILK PLATE COUNT AGAR CM0681

Testing performed in accordance with ISO11133:2014

Reactions after incubation at 30 ± 2°C for 72 ± 3 hours

Pour plate technique

Medium is challenged with 50-120 colony forming units

Escherichia coli	ATCC® 25922	WDCM00013	1-3mm straw colonies
Escherichia coli	ATCC® 8739	WDCM00012	1-3mm straw colonies
Staphylococcus aureus	ATCC® 25923	WDCM00034	0.5-2mm straw colonies
Bacillus subtilis	ATCC® 6633	WDCM00003	0.5-2mm straw colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

MILK PLATE COUNT AGAR CM0681

Revision History

Section / Step	Description of Change	Reason for Change	Reference
Creation of ISO11133 section	Update to include testing of ISO11133:2014	Change control	BT-CC-1217

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

MAXIMUM RECOVERY DILUENT CM0733

MAXIMUM RECOVERY DILUENT **CM0733**

Typical Formula*

Peptone	grams per litre	1.0
Sodium chloride		8.5

* adjusted as required to meet performance standards

Directions

Dissolve 9.5g in 1 litre of distilled water. Dispense into final containers and sterilize by autoclaving at 121°C for 15 minutes.

Physical Characteristics

Straw, free-flowing powder
Colour on reconstitution - colourless
Moisture level - less than or equal to 7%
pH 7.0 ± 0.2 at 25°C
Clarity - clear

Microbiological Tests using Optimum Inoculum Dilution

Control Media: Tryptone Soya Agar or Columbia Blood Agar Base enriched with 5% v/v horse blood, where appropriate.

Tested as a diluent

Inoculate 9ml of the medium with 1ml of the test organism containing greater than or equal to 2E+04 cfu/ml. At time zero (0 minutes) and after holding at 20-25°C for 45 minutes to 1 hour, subculture onto control medium.

Anaerobic incubation at 37 ± 2°C for 18 ± 2 hours

Medium is challenged with 20-120 colony-forming units (cfu)

Clostridium perfringens	ATCC®13124	2-4mm grey colonies

A satisfactory result is represented by recovery of ± 30% of the Control cfu (0 minutes) after holding at 20-25°C for 45 minutes.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

MAXIMUM RECOVERY DILUENT CM0733

Testing performed in accordance with ISO11133:2014

Reactions after incubation at 37 ± 2°C for 18 ± 2 hours

Medium is challenged with 50-150 colony-forming units

Escherichia coli	ATCC®8739	WDCM00012	1-2mm white/grey colonies
Escherichia coli	ATCC®25922	WDCM00013	1-2mm white/grey colonies
Staphylococcus aureus	ATCC®25923	WDCM00034	0.5-1mm white/grey colonies

A satisfactory result is represented by recovery of ± 30% of the Control cfu (0 minutes) after holding at 20-25°C for 45 minutes.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

MAXIMUM RECOVERY DILUENT CM0733

Revision History

Section / Step	Description of Change	Reason for Change	Reference
Creation of ISO11133 section	Update to include testing of ISO11133:2014	Change control	BT-CC-1268
Entire Document	Update to new document format and correction of typographical/minor errors. Removal of Oxoid Manual	Change control	BT-CC-2263

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

CAMPYLOBACTER BLOOD-FREE SELECTIVE AGAR BASE CM0739

CAMPYLOBACTER BLOOD-FREE SELECTIVE AGAR BASE **CM0739**

Typical Formula*

Nutrient Broth No. 2	grams per litre	25.0
Activated carbon		4.0
Casein hydrolysate		3.0
Sodium desoxycholate		1.0
Iron (II) sulphate		0.25
Sodium pyruvate		0.25
Agar		12.0

*adjusted to meet performance standards

Directions

Suspend 22.75g in 500ml of distilled water. Bring to the boil to dissolve completely. Sterilize by autoclaving at 121°C for 15 minutes. Cool to 50°C and aseptically add the contents of 1 vial of CCDA Selective Supplement (SR0155E) reconstituted as directed. Mix well and pour into sterile Petri dishes.

Physical Characteristics

Black, free-flowing powder
Colour on reconstitution - black
pH 7.4 ± 0.2 at 25°C
Clarity - opaque
Gel strength – firm, comparable to 12g/litre of agar

Microbiological Tests Using Optimum Inoculum Dilution

Control Medium : Columbia Blood Agar Base enriched with 7% v/v laked horse blood and Campylobacter Growth Supplement SR0232

Reactions after incubation at 37 ± 2°C for 48 hours under microaerophilic conditions

Tested with the addition of CCDA Selective Supplement SR0155

Medium is challenged with 10-100 colony-forming units

Campylobacter jejuni	ATCC®33560	0.5-2mm grey colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 50% of the control medium.

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Campylobacter lari	ATCC®35221	0.5-2mm grey colonies

For *Campylobacter lari* ATCC®35221, a satisfactory result is represented by growth and a positive diagnostic reaction in accordance with the specification.

Testing performed in accordance with ISO11133:2014

Reactions after incubation at 41.5 ± 2°C for 44 ± 4 hours

Medium is challenged with 50-120 colony-forming units

Campylobacter jejuni	ATCC®29428	WDCM00156	0.5-2mm grey colonies
Campylobacter jejuni	ATCC®33291	WDCM00005	0.5-2mm grey colonies
Campylobacter coli	ATCC®43478	WDCM00004	0.5-2mm grey colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 50% of the control medium.

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Escherichia coli	ATCC®25922	WDCM00013	No growth
Escherichia coli	ATCC®8739	WDCM00012	No growth
Staphylococcus aureus	ATCC®25923	WDCM00034	No growth

Negative strains are inhibited.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

CAMPYLOBACTER BLOOD-FREE SELECTIVE AGAR BASE CM0739

Revision History

Section / Step	Description of Change	Reason for Change	Reference
Physical Characteristics	Removal of moisture value	Change control	BT-CC-1617
Microbiological Characteristics	Change of testing for *Campylobacter lari* ATCC®35221 changed from low number quantitative to high number qualitative testing.	Change control	BT-CC-2939

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

LISTERIA SELECTIVE AGAR BASE (OXFORD FORMULATION) CM0856

LISTERIA SELECTIVE AGAR BASE (OXFORD FORMULATION) **CM0856**

Typical Formula*

	grams per litre
Columbia Blood Agar Base	39.0
Aesculin	1.0
Ferric ammonium citrate	0.5
Lithium chloride	15.0

* adjusted as required to meet performance standards

Directions

Suspend 27.75g in 500ml of distilled water. Bring to the boil to dissolve completely. Sterilize by autoclaving at 121°C for 15 minutes. Cool to 50°C and aseptically add the contents of 1 vial of Listeria Selective Supplement (SR0206E or SR0140E) reconstituted as directed. Mix well and pour into sterile Petri dishes.

Physical Characteristics

Straw, free-flowing powder
Colour on reconstitution - pale green
Moisture level - less than or equal to 7%
pH - 7.0 ± 0.2 at 25°C
Clarity - clear
Gel strength - firm, comparable to 10.0g/litre of agar

Microbiological Tests Using Optimum Inoculum Dilution

Control Medium: Columbia Blood Agar Base enriched with 5% v/v horse blood

Reactions after incubation at 37°C for 48 hours

Tested with the addition of Listeria Selective Supplement (Oxford Formulation) SR0140

Medium is challenged with 10-100 colony-forming units

Listeria monocytogenes	ATCC®7644	0.25-1.0mm brown/black dimpled colonies and halo
Listeria monocytogenes	ATCC®13932	0.25-1.0mm brown/black dimpled colonies and halo

A satisfactory result is represented by recovery of positive strains equal to or greater than 50% of the control medium.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

LISTERIA SELECTIVE AGAR BASE (OXFORD FORMULATION) CM0856

Medium is challenged with 10-100 colony-forming units

Staphylococcus aureus	ATCC®25923	No growth or pinpoint-1.5mm yellow colonies

Staphylococcus aureus ATCC®25923 is inhibited or shall produce a negative diagnostic reaction from an inoculum of 10-100 cfu

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Enterococcus faecalis	ATCC®29212	No growth
Enterococcus faecalis	ATCC®19433	No growth
Escherichia coli	ATCC®25922	No growth
Escherichia coli	ATCC®8739	No growth
Candida albicans	ATCC®10231	No growth or minimal growth

Negative strains are inhibited. *Candida albicans* ATCC®10231 shall be inhibited or produce pinpoint colourless colonies with no blackening of the media.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

LISTERIA SELECTIVE AGAR BASE (OXFORD FORMULATION) CM0856

Revision History

Section / Step	Description of Change	Reason for Change	Reference
Microbiological characteristics	Change to *Staphylococcus aureus* growth characteristics	Change control	MOC-2022-0180

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

RAPPAPORT-VASSILIADIS SOYA PEPTONE (RVS) BROTH CM0866

RAPPAPORT-VASSILIADIS SOYA PEPTONE (RVS) BROTH **CM0866**

Typical Formula*

Soya peptone	grams per litre	4.5
Sodium chloride		7.2
Potassium dihydrogen phosphate		1.26
Di-potassium hydrogen phosphate		0.18
Magnesium chloride (anhydrous)		13.58
Malachite green		0.036

* adjusted as required to meet performance standards

Directions

Suspend 26.75 g in 1 litre of distilled water. Heat gently until dissolved completely. Mix well and distribute into final containers. Sterilize by autoclaving at 115°C for 15 minutes. This medium is very hygroscopic and must be protected from moisture.

Physical Characteristics

Straw/green, free-flowing coarse powder
Colour on reconstitution - blue
Moisture level - less than 7%
pH 5.2 ± 0.2 at 25°C
Clarity - clear

Microbiological Tests Using Optimum Inoculum Dilution

Control Media: Tryptone Soya Agar and XLD Medium

Reactions after incubation at 41 ± 2°C for 24 ± 3 hours

Inoculation with pure cultures

Inoculate 10ml quantities of medium to achieve 1-15 colony-forming units/ml (cfu/ml). Incubate broths at 41 ± 2°C for 24 ± 3 hours. After incubation, subculture onto Tryptone Soya Agar (CM0131) and incubate plates at 37 ± 2°C for 24 ± 3 hours.

Salmonella nottingham	NCTC 7832	1-3mm straw colonies
Salmonella abony	NCTC 6017	1-3mm straw colonies
Salmonella poona	NCTC 4840	1-3mm straw colonies

A satisfactory result is represented by recovery of *Salmonella* strains equal to or greater than a 4 log (10) increase.

Inoculate 10ml quantities of medium to achieve 1E+02 to 1E+04 cfu/ml. Incubate broths at 41 ± 2°C for 24 ± 3 hours. After incubation, subculture onto Tryptone Soya Agar (CM0131) and incubate plates at 37 ± 2°C for 24 ± 3 hours.

Staphylococcus aureus	ATCC® 6538	No growth

Negative strains are inhibited or shall produce at least a 2 log (10) reduction.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

RAPPAPORT-VASSILIADIS SOYA PEPTONE (RVS) BROTH CM0866

Testing performed in accordance with ISO11133:2014

Reactions after incubation at 41.5 ± 2°C for 24 ± 3 hours

Inoculation with mixed cultures

Inoculate 10ml quantities of medium to achieve 1-10 cfu/ml of *Salmonella* species, to each add 1E+03 to 1E+04 cfu/ml of *Escherichia coli* and *Pseudomonas aeruginosa*. Incubate broths at 41 ± 2°C for 24 ± 3 hours. After incubation, subculture onto XLD Medium (CM0469) and incubate plates at 37 ± 2°C for 24 ± 3 hours.

Salmonella typhimurium	ATCC® 14028	WDCM00031	1-2mm red colonies, black centre
+ *Escherichia coli*	ATCC® 8739	WDCM00012	No growth
+ *Pseudomonas aeruginosa*	ATCC® 27853	WDCM00025	No growth
Salmonella typhimurium	ATCC® 14028	WDCM00031	1-2mm red colonies, black centre
+ *Escherichia coli*	ATCC® 25922	WDCM00013	No growth
+ *Pseudomonas aeruginosa*	ATCC® 27853	WDCM00025	No growth
Salmonella enteritidis	ATCC® 13076	WDCM00030	1-2mm red colonies, black centre
+ *Escherichia coli*	ATCC® 8739	WDCM00012	No growth
+ *Pseudomonas aeruginosa*	ATCC® 27853	WDCM00025	No growth
Salmonella enteritidis	ATCC® 13076	WDCM00030	1-2mm red colonies, black centre
+ *Escherichia coli*	ATCC® 25922	WDCM00013	No growth
+ *Pseudomonas aeruginosa*	ATCC® 27853	WDCM00025	No growth

A satisfactory result is represented by recovery of >100 cfu of *Salmonella* species on XLD Medium (CM0469).

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

RAPPAPORT-VASSILIADIS SOYA PEPTONE (RVS) BROTH CM0866

Inoculation with pure cultures

Inoculate 10ml quantities of medium to achieve 1E+03 to 1E+04 cfu/ml of *Escherichia coli* and *Enterococcus faecalis*. Incubate broths at 41 ± 2°C for 24 ± 3 hours. After incubation, subculture onto Tryptone Soya Agar (CM0131) and incubate plates at 37 ± 2°C for 24 ± 3 hours.

Escherichia coli	ATCC® 8739	WDCM00012	No growth or 1-3mm cream colonies
Escherichia coli	ATCC® 25922	WDCM00013	No growth or 1-3mm cream colonies
Enterococcus faecalis	ATCC® 19433	WDCM00009	No growth or 0.5-1mm straw colonies
Enterococcus faecalis	ATCC® 29212	WDCM00087	No growth or 0.5-1mm straw colonies

A satisfactory result is represented by growth of ≤100 cfu for *Escherichia coli* and <10 cfu for *Enterococcus faecalis* on Tryptone Soya Agar (CM0131).

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

RAPPAPORT-VASSILIADIS SOYA PEPTONE (RVS) BROTH CM0866

Revision History

Section / Step	Description of Change	Reason for Change	Reference
Creation of ISO11133 section	Update to include testing of ISO11133:2014	Change control	BT-CC-1411

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

FRASER BROTH BASE (ISO) (CM0895)

FRASER BROTH BASE (ISO) CM0895

Typical Formula*

Proteose peptone	grams per litre	5.0
Tryptone		5.0
Meat extract		5.0
Yeast extract		5.0
Sodium chloride		20.0
Di-sodium hydrogen phosphate		12.0
Potassium dihydrogen phosphate		1.35
Aesculin		1.0
Lithium chloride		3.0

* adjusted as required to meet performance standards

Directions

To make Half Fraser Broth
Dissolve 12.9g in 225ml of distilled water. Sterilize by autoclaving at 121°C for 15 minutes. Cool to 50°C and aseptically add the contents of 1 vial of Half Fraser Selective Supplement (SR0166E) reconstituted as directed. Mix well and dispense into sterile containers.

Alternatively, dissolve 129.2g in 2.25 litres of distilled water. Sterilize by autoclaving at 121°C for 15 minutes. Cool to 50°C and aseptically add the contents of 1 vial of Half Fraser Selective Supplement (SR0166G) reconstituted as directed. Mix well and dispense into sterile containers.

To make Fraser Broth
Dissolve 28.7g in 500ml of distilled water. Sterilize by autoclaving at 121°C for 15 minutes. Cool to 50°C and aseptically add the contents of 1 vial of Fraser Selective Supplement (SR0156E) reconstituted as directed. Mix well and dispense into sterile containers.

Physical Characteristics

Straw, free-flowing powder
Colour on reconstitution - straw 2-3
Moisture level - less than 7%
pH 7.2 ± 0.2 at 25°C
Clarity - clear

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

FRASER BROTH BASE (ISO) (CM0895)

Microbiological Tests Using Optimum Inoculum Dilution

Control Media: Chromogenic Listeria Agar (CM1084) or Columbia Blood Agar Base (CM0331) enriched with 5% v/v horse blood, where appropriate.

Tested with the addition of Fraser Selective Supplement SR0156

Reactions after incubation at 37 ± 2°C for 24 ± 2 hours

Inoculate 10ml quantities of medium to achieve 1-10 colony-forming units/ml (cfu/ml) of *Listeria* spp. Incubate broths at 37 ± 2°C for 24 ± 2 hours. Subculture onto Chromogenic Listeria Agar (ISO) (CM1084 + SR0226 & SR0228) and incubate plates at 37 ± 2°C for 24 - 48 hours.

Listeria monocytogenes	ATCC® 7644
Listeria monocytogenes	ATCC® 13932

A satisfactory result is represented by recovery of positive strains equal to or greater than a 3 log(10) increase.

Positive strains shall produce aesculin hydrolysis after 48 hours.

Reactions after incubation at 37 ± 2°C for 48 ± 2 hours

Inoculate 10ml quantities of medium to achieve 1E+03 to 1E+04 cfu/ml. Incubate broths at 37°C for 48 hours.

Bacillus cereus	ATCC® 10876	No aesculin hydrolysis (no blackening)

Negative strains shall produce no aesculin hydrolysis after 48 hours.

Testing performed in accordance with ISO11133:2014

Inoculation with mixed cultures

Inoculate 10ml quantities of medium to achieve 1 – 10 colony-forming units/ml (cfu/ml) of *Listeria spp.*, to each add 1E+02 to 1E+03 cfu/ml of *Escherichia coli* and 1E+02 to 1E+03 cfu/ml of *Enterococcus faecalis.* Incubate broths at 37 ± 2°C for 24 ± 2 hours. Subculture onto Chromogenic Listeria Agar (ISO) (CM1084 + SR0226 & SR0228) and incubate plates at 37 ± 2°C for 24 ± 2 hours

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

FRASER BROTH BASE (ISO) (CM0895)

Reactions after incubation at 37 ± 2°C for 24 ± 2 hours

Listeria monocytogenes	ATCC® 13932	WDCM00021	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC® 8739	WDCM00012	No growth
+ *Enterococcus faecalis*	ATCC® 19433	WDCM00009	No growth
Listeria monocytogenes	ATCC® 13932	WDCM00021	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC® 25922	WDCM00013	No growth
+ *Enterococcus faecalis*	ATCC® 29212	WDCM00087	No growth
Listeria monocytogenes	ATCC® 13932	WDCM00021	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC® 8739	WDCM00012	No growth
+ *Enterococcus faecalis*	ATCC® 29212	WDCM00087	No growth
Listeria monocytogenes	ATCC® 13932	WDCM00021	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC® 25922	WDCM00013	No growth
+ *Enterococcus faecalis*	ATCC® 19433	WDCM00009	No growth
Listeria monocytogenes	ATCC® 35152	WDCM00109	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC® 25922	WDCM00013	No growth
+ *Enterococcus faecalis*	ATCC® 29212	WDCM00087	No growth
Listeria monocytogenes	ATCC® 35152	WDCM00109	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC® 8739	WDCM00012	No growth
+ *Enterococcus faecalis*	ATCC® 19433	WDCM00009	No growth
Listeria monocytogenes	ATCC® 35152	WDCM00109	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC® 25922	WDCM00013	No growth
+ *Enterococcus faecalis*	ATCC® 19433	WDCM00009	No growth
Listeria monocytogenes	ATCC® 35152	WDCM00109	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC® 8739	WDCM00012	No growth
+ *Enterococcus faecalis*	ATCC® 29212	WDCM00087	No growth

A satisfactory result is represented by recovery of >10 cfu of *Listeria monocytogenes* on Chromogenic Listeria Agar (ISO) (CM1084).

Inoculation with pure cultures

Inoculate 10ml quantities of medium to achieve 1E+03 to 1E+04 colony-forming units/ml (cfu/ml) of *Escherichia coli* and *Enterococcus faecalis.* Incubate broths at 37 ± 2°C for 24 ± 2 hours. Subculture onto Chromogenic Listeria Agar (ISO)) (CM1084 + SR0226 & SR0228) and Tryptone Soya Agar (CM0131) then incubate plates at 37 ± 2°C for 24 ± 2 hours.

Reactions after incubation at 37 ± 2°C for 24 ± 2 hours

Escherichia coli	ATCC® 8739	WDCM00012	No growth (CM1084)
Escherichia coli	ATCC® 8739	WDCM00012	Cream colonies (CM0131)
Escherichia coli	ATCC® 25922	WDCM00013	No growth (CM1084)
Escherichia coli	ATCC® 25922	WDCM00013	Cream colonies (CM0131)
Enterococcus faecalis	ATCC® 19433	WDCM00009	No growth (CM1084)
Enterococcus faecalis	ATCC® 19433	WDCM00009	Cream colonies (CM0131)
Enterococcus faecalis	ATCC® 29212	WDCM00087	No growth (CM1084)
Enterococcus faecalis	ATCC® 29212	WDCM00087	Cream colonies (CM0131)

A satisfactory result is represented by no growth of *Escherichia coli* and *Enterococcus faecalis* on Chromogenic Listeria Agar (ISO) (CM1084) and <100 cfu on Tryptone Soya Agar (CM0131).

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

FRASER BROTH BASE (ISO) (CM0895)

Revision History

Section / Step	Description of Change	Reason for Change	Reference
N/A	Update to ISO	Change control	BT-CC-1903

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

BRILLIANCE™ LISTERIA AGAR BASE (ISO) CM1212

BRILLIANCE™ LISTERIA AGAR BASE (ISO) **CM1212**

Typical Formula*

Enzymatic digest of animal tissues	grams per litre	18.0
Enzymatic digest of casein		6.0
Yeast extract		10.0
Sodium pyruvate		2.0
Glucose		2.0
Magnesium glycerophosphate		1.0
Magnesium sulphate (anhydrous)		0.5
Sodium chloride		5.0
Lithium chloride		10.0
Di-sodium hydrogen phosphate (anhydrous)		2.5
5-Bromo-4-chloro-3-indolyl-β-D-glucopyranoside		0.05
Agar		12.0

* adjusted as required to meet performance standards

Directions

Suspend 34.5g in 480ml of distilled water. Mix well and sterilize by autoclaving at 121°C for 15 minutes. Cool to 48°C. Aseptically add the contents of 1 vial of Brilliance™ Listeria Selective Supplement (ISO) (SR0257E) reconstituted as directed, and 1 vial of Brilliance™ Listeria Differential Supplement (ISO) (SR0258E) warmed to 48°C. Mix well and pour into sterile Petri dishes.

Physical Characteristics

Straw, free-flowing powder
Colour on reconstitution - orange/brown
Moisture level - less than or equal to 7%
pH 7.2 ± 0.2 at 25°C
Clarity - clear
Gel strength - firm, comparable to 12.0g/litre of agar

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

BRILLIANCE™ LISTERIA AGAR BASE (ISO) CM1212

Microbiological Tests Using Optimum Inoculum Dilution

Control Media: Tryptone Soya Agar, Columbia Blood Agar Base enriched with 5% v/v horse blood or Sabouraud Dextrose Agar, where appropriate

Tested with the addition of Brilliance™ Listeria Selective Supplement (ISO) SR0257 and Brilliance™ Listeria Differential Supplement (ISO) SR0258

Reactions after incubation at 37 ± 2°C for 24 ± 2 hours

Medium is challenged with 30-120 colony-forming units

Listeria monocytogenes	NCTC11994	0.5-2mm blue-green colonies with halo
Listeria monocytogenes	ATCC®7644	0.5-2mm blue-green colonies with halo

A satisfactory result is represented by recovery of positive strains equal to or greater than 50% of the control medium.

Reactions after incubation at 37 ± 2°C for 48 ± 4 hours

Medium is challenged with 30-120 colony-forming units

Listeria monocytogenes	NCTC11994	1-3mm blue-green colonies with halo
Listeria monocytogenes	ATCC®7644	1-3mm blue-green colonies with halo
Listeria ivanovii	NCTC12701	0.5-3mm blue-green colonies with or without halo

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium. For *Listeria ivanovii* NCTC12701, a satisfactory result is represented by recovery equal to or greater than 50% of the control medium.

Medium is challenged with 1E+04 to 1E+05 colony-forming units

Bacillus cereus	ATCC®10876	No growth or 1-2mm cream/blue colonies
Staphylococcus aureus	ATCC®25923	No growth or 0.5-1mm yellow colonies
Saccharomyces cerevisiae	ATCC®9763	No growth or 1-2mm cream/blue colonies

Negative strains are inhibited or shall produce at least a 2 log(10) reduction when compared to the control medium.

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Proteus mirabilis	NCTC10975	No growth

Negative strains are inhibited.

Testing performed in accordance with ISO11133:2014

Table B.1
ISO Standard 11290-1:2017 tested with the addition of Brilliance™ Listeria Selective Supplement (ISO) SR0257 and Brilliance™ Listeria Differential Supplement (ISO) SR0258

Reactions after incubation at 37 ± 2°C for 24 ± 2 hours

Medium is challenged with 50-120 colony-forming units

Listeria monocytogenes	ATCC®13932	WDCM00021	0.5-2mm blue-green colonies with halo

A satisfactory result is represented by recovery of positive strains equal to or greater than 50% of the control medium.

Reactions after incubation at 37 ± 2°C for 48 ± 4 hours

Medium is challenged with 50-120 colony-forming units

Listeria monocytogenes	ATCC®13932	WDCM00021	1-3mm blue-green colonies with halo
Listeria monocytogenes	ATCC®35152	WDCM00109	1-3mm blue-green colonies with halo

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

Medium is challenged with 1E+03 to 1E+04 colony-forming units

Listeria innocua	ATCC®33090	WDCM00017	0.5-3mm blue-green colonies without halo

A satisfactory result is represented by good growth with a negative diagnostic reaction.

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Escherichia coli	ATCC®25922	WDCM00013	No growth
Escherichia coli	ATCC®8739	WDCM00012	No growth
Enterococcus faecalis	ATCC®29212	WDCM00087	No growth
Enterococcus faecalis	ATCC®19433	WDCM00009	No growth

Negative strains are inhibited.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

BRILLIANCE™ LISTERIA AGAR BASE (ISO) CM1212

Revision History

Section / Step	Description of Change	Reason for Change	Reference
Physical Characteristics	Clarity change from opaque to clear	Change control	MOC-2023-0118

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

LISTERIA SELECTIVE SUPPLEMENT (OXFORD FORMULATION) SR0140E

LISTERIA SELECTIVE SUPPLEMENT (OXFORD FORMULATION) **SR0140E**

Formula

Vial contents (each vial is sufficient to supplement 500ml of medium)

Cycloheximide	200.0 mg
Colistin sulphate	10.0 mg
Acriflavine	2.5 mg
Cefotetan	1.0 mg
Fosfomycin	5.0 mg

Description

A selective supplement for the isolation of *Listeria monocytogenes*.

Directions

Aseptically add 5ml of 70% ethanol to 1 vial and mix gently to dissolve. Avoid frothing. Aseptically add the vial contents to 500ml of sterile Listeria Selective Agar Base (CM0856) prepared as directed and cooled to 50°C. Mix well and pour into sterile Petri dishes.

Physical Characteristics

Yellow powder/pellet
Sterility - passes test

Microbiological Tests Using Optimum Inoculum Dilution

Control Medium: Columbia Blood Agar Base enriched with 5% v/v horse blood

Reactions after incubation at 37°C for 48 hours

Tested in Listeria Selective Agar Base CM0856

Medium is challenged with 10-100 colony-forming units

Listeria monocytogenes	ATCC®7644	0.25-1.0mm brown/black dimpled colonies and halo
Listeria monocytogenes	ATCC®13932	0.25-1.0mm brown/black dimpled colonies and halo

A satisfactory result is represented by recovery of positive strains equal to or greater than 50% of the control medium.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

LISTERIA SELECTIVE SUPPLEMENT (OXFORD FORMULATION) SR0140E

Medium is challenged with 10-100 colony-forming units

Staphylococcus aureus	ATCC®25923	No growth or pinpoint-1.5mm yellow colonies

Staphylococcus aureus ATCC®25923 is inhibited or shall produce a negative diagnostic reaction from an inoculum of 10-100 cfu.

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Enterococcus faecalis	ATCC®29212	No growth
Enterococcus faecalis	ATCC®19433	No growth
Escherichia coli	ATCC®25922	No growth
Escherichia coli	ATCC®8739	No growth
Candida albicans	ATCC®10231	No growth or minimal growth

Negative strains are inhibited. *Candida albicans* ATCC®10231 shall be inhibited or produce pinpoint colourless colonies with no blackening of the media.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

LISTERIA SELECTIVE SUPPLEMENT (OXFORD FORMULATION) SR0140E

Revision History

Section / Step	Description of Change	Reason for Change	Reference
Microbiological characteristics	Change to *Staphylococcus aureus* growth characteristics	Change control	MOC-2022-0180

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

FRASER SELECTIVE SUPPLEMENT SR0156E

FRASER SELECTIVE SUPPLEMENT SR0156E

Formula

Vial contents (each vial is sufficient to supplement 500ml of medium)

Ammonium iron (III) citrate	250.0 mg
Nalidixic acid	10.0 mg
Acriflavine hydrochloride	12.5 mg

Description

A selective supplement for the detection of *Listeria monocytogenes*.

Directions

Aseptically add 5ml of 1:1 ethanol:sterile distilled water to 1 vial and mix gently to dissolve. Aseptically add the vial contents to 500ml of sterile Fraser Broth Base (CM0895) prepared as directed and cooled to 50°C. Mix well and aseptically dispense into sterile containers.

Physical Characteristics

Orange/green pellet
Sterility - passes test

Microbiological Tests Using Optimum Inoculum Dilution

Control Media: Chromogenic Listeria Agar (CM1084) or Columbia Blood Agar Base (CM0331) enriched with 5% v/v horse blood, where appropriate.

Tested with the addition of Fraser Selective Supplement SR0156

Reactions after incubation at 37 ± 2°C for 24 ± 2 hours

Inoculate 10ml quantities of medium to achieve 1-10 colony-forming units/ml (cfu/ml) of *Listeria* spp. Incubate broths at 37 ± 2°C for 24 ± 2 hours. Subculture onto Chromogenic Listeria Agar (ISO) (CM1084 + SR0226 & SR0228) and incubate plates at 37 ± 2°C for 24 - 48 hours.

Listeria monocytogenes	ATCC® 7644
Listeria monocytogenes	ATCC® 13932

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

FRASER SELECTIVE SUPPLEMENT SR0156E

A satisfactory result is represented by recovery of positive strains equal to or greater than a 3 log(10) increase.

Positive strains shall produce aesculin hydrolysis after 48 hours.

Reactions after incubation at 37 ± 2°C for 48 ± 2 hours

Inoculate 10ml quantities of medium to achieve 1E+03 to 1E+04 cfu/ml. Incubate broths at 37°C for 48 hours.

Bacillus cereus	ATCC® 10876	No aesculin hydrolysis (no blackening)

Negative strains shall produce no aesculin hydrolysis after 48 hours.

Testing performed in accordance with ISO11133:2014

Inoculation with mixed cultures

Inoculate 10ml quantities of medium to achieve 1 – 10 colony-forming units/ml (cfu/ml) of *Listeria spp.*, to each add 1E+02 to 1E+03 cfu/ml of *Escherichia coli* and 1E+02 to 1E+03 cfu/ml of *Enterococcus faecalis.* Incubate broths at 37 ± 2°C for 24 ± 2 hours. Subculture onto Chromogenic Listeria Agar (ISO) (CM1084 + SR0226 & SR0228) and incubate plates at 37 ± 2°C for 24 ± 2 hours

Reactions after incubation at 37 ± 2°C for 24 ± 2 hours

Listeria monocytogenes	ATCC® 13932	WDCM00021	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC® 8739	WDCM00012	No growth
+ *Enterococcus faecalis*	ATCC® 19433	WDCM00009	No growth
Listeria monocytogenes	ATCC® 13932	WDCM00021	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC® 25922	WDCM00013	No growth
+ *Enterococcus faecalis*	ATCC® 29212	WDCM00087	No growth
Listeria monocytogenes	ATCC® 13932	WDCM00021	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC® 8739	WDCM00012	No growth
+ *Enterococcus faecalis*	ATCC® 29212	WDCM00087	No growth
Listeria monocytogenes	ATCC® 13932	WDCM00021	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC® 25922	WDCM00013	No growth
+ *Enterococcus faecalis*	ATCC® 19433	WDCM00009	No growth

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

FRASER SELECTIVE SUPPLEMENT SR0156E

Listeria monocytogenes	ATCC® 35152	WDCM00109	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC® 25922	WDCM00013	No growth
+ *Enterococcus faecalis*	ATCC® 29212	WDCM00087	No growth
Listeria monocytogenes	ATCC® 35152	WDCM00109	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC® 8739	WDCM00012	No growth
+ *Enterococcus faecalis*	ATCC® 19433	WDCM00009	No growth
Listeria monocytogenes	ATCC® 35152	WDCM00109	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC® 25922	WDCM00013	No growth
+ *Enterococcus faecalis*	ATCC® 19433	WDCM00009	No growth
Listeria monocytogenes	ATCC® 35152	WDCM00109	0.5-1.0mm blue colonies with halo
+ *Escherichia coli*	ATCC® 8739	WDCM00012	No growth
+ *Enterococcus faecalis*	ATCC® 29212	WDCM00087	No growth

A satisfactory result is represented by recovery of >10 cfu of *Listeria monocytogenes* on Chromogenic Listeria Agar (ISO) (CM1084).

Inoculation with pure cultures

Inoculate 10ml quantities of medium to achieve 1E+03 to 1E+04 colony-forming units/ml (cfu/ml) of *Escherichia coli* and *Enterococcus faecalis.* Incubate broths at 37 ± 2°C for 24 ± 2 hours. Subculture onto Chromogenic Listeria Agar (ISO)) (CM1084 + SR0226 & SR0228) and Tryptone Soya Agar (CM0131) then incubate plates at 37 ± 2°C for 24 ± 2 hours.

Reactions after incubation at 37 ± 2°C for 24 ± 2 hours

Escherichia coli	ATCC® 8739	WDCM00012	No growth (CM1084)
Escherichia coli	ATCC® 8739	WDCM00012	Cream colonies (CM0131)
Escherichia coli	ATCC® 25922	WDCM00013	No growth (CM1084)
Escherichia coli	ATCC® 25922	WDCM00013	Cream colonies (CM0131)
Enterococcus faecalis	ATCC® 19433	WDCM00009	No growth (CM1084)
Enterococcus faecalis	ATCC® 19433	WDCM00009	Cream colonies (CM0131)
Enterococcus faecalis	ATCC® 29212	WDCM00087	No growth (CM1084)
Enterococcus faecalis	ATCC® 29212	WDCM00087	Cream colonies (CM0131)

A satisfactory result is represented by no growth of *Escherichia coli* and *Enterococcus faecalis* on Chromogenic Listeria Agar (ISO) (CM1084) and <100 cfu on Tryptone Soya Agar (CM0131).

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

FRASER SELECTIVE SUPPLEMENT SR0156E

Revision History

Section / Step	Description of Change	Reason for Change	Reference
Entire Document	Update to test specification	Change control	BT-CC-1533

ThermoFisher SCIENTIFIC

Atmosphere Generation Systems

Providing conditions for optimal growth of microorganisms has never been easier

Thermo Scientific™ Oxoid™ AGS Atmosphere Generation System

Create atmospheric environments to suit a variety of fastidious organisms

Available in standard formats (boxes and jars) or a compact plastic pouch format, our easy-to-use atmophere generation system can be tailored to your needs and can accommodate small or large numbers of plates. It is suitable for the transportation, culture, selective isolation, and susceptibility testing of non-aerobic organisms.

Quick and simple

There is nothing to add.

No catalyst

No water

Thermo Scientific™ Oxoid™ AGS systems are activated on contact with air

Safe

Non-hazardous chemicals

No evolution of hydrogen

No dangerous build up of pressure

Rapid

Quickly creates the required gaseous conditions

Allows maximum recovery and larger colony size

Enhances prompt identification

Versatile

Available in standard format (for use with jars) or a compact plastic pouch format

Ideal for large or small numbers of plates

Suitable for the transportation, culture, selective isolation and susceptibility testing of non-aerobic organisms

Cost effective

No hazardous material transportation costs

No capital equipment required

Thermo Scientific™ Oxoid™ AnaeroJar™

- Specially designed for use with the standard Thermo Scientific™ Oxoid™ AGS products.
- 2.5 litre capacity.
- Plate carrier holds up to 12 culture plates.
- Easy to carry, lightweight with integral handle for safe transportation.
- Innovative pressure-release clips.

Thermo Scientific™ Oxoid™ AnaeroBox™

- 2.5 litre and 3.5 litre capacity.
- Holds 12 or 18 plates, respectively.
- Lightweight and stackable to save incubator space.

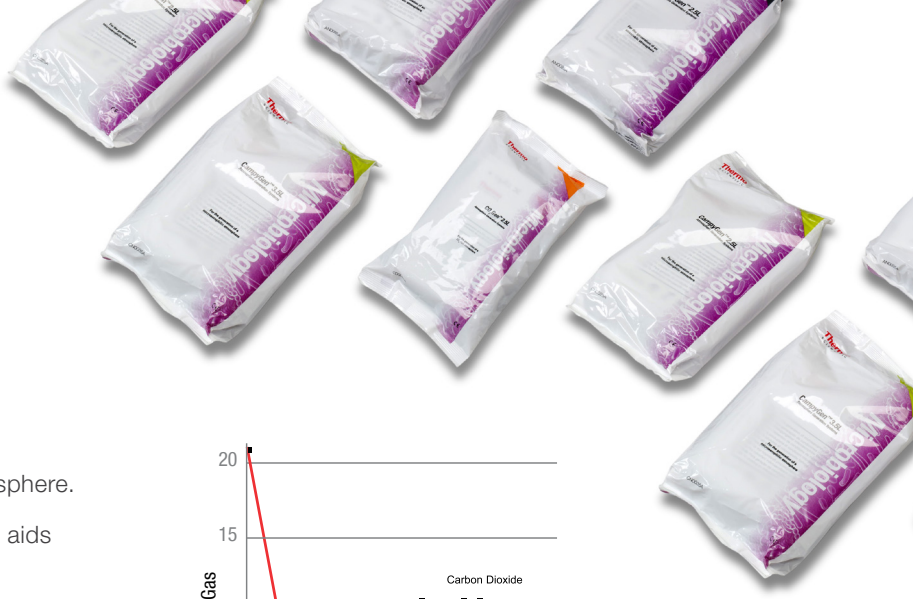
Compact pouches

Designed for the incubation of a small number of plates. For Thermo Scientific™ Oxoid™ AnaeroGen™ Compact, 1-4 standard culture plates can be used. For Thermo Scientific™ Oxoid™ CampyGen™ Compact, and CO_2Gen™ Compact, 1 or 2 culture plates can be incubated (however, if only one plate is to be incubated, a second dummy plate should also be inserted into the pouch to ensure the correct gaseous conditions).

The transparent pouch allows growth to be observed at any time without disturbing the atmosphere within the pouch – ideal for slower growing micro-organisms.

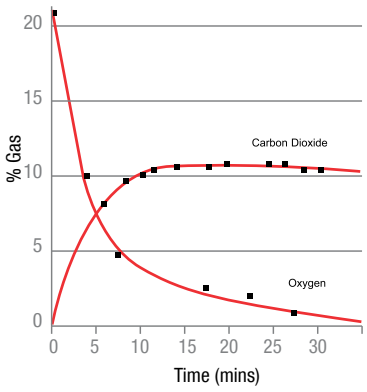
Ten pouches are supplied with the AnaeroGen Compact. Additional pouches can also be ordered (in packs of 20) for use with AnaeroGen, CampyGen and CO_2Gen Compacts.

W-Zip pouches have an integral seal. Closure is easy; simply pinch the seal together at one end and squeeze all the way across, ensuring that there are no gaps. The gas-tight seal prevents gas leakage.



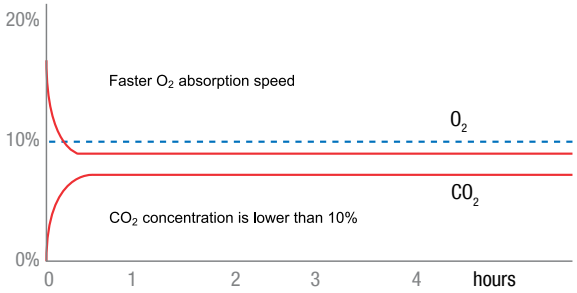
Thermo Scientific™ Oxoid™ AnaeroGen™/ AnaeroGen™ Compact

- Reacts quickly to produce a rapid anaerobic atmosphere.
- Provides improved recovery; increased colony size aids presumptive identification.
- Beneficial for the growth of fastidious anaerobes.
- Enhances the survival of obligate anaerobes.
- Within 30 minutes an atmosphere of <1% oxygen supplemented with carbon dioxide is generated – ideal for the growth of anaerobes.



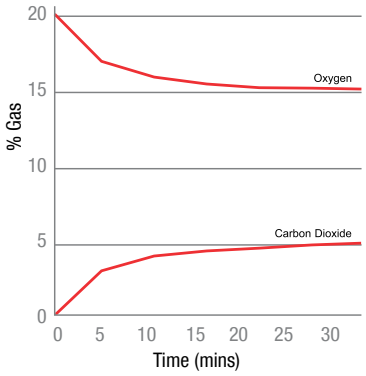
Thermo Scientific™ Oxoid™ CampyGen™/ CampyGen™ Compact

- Rapidly provides atmospheric conditions for the growth of *Campylobacter* spp. and other microaerophilic organisms.
- Removes oxygen and produces carbon dioxide quickly and safely.
- Provides conditions for optimal growth.
- Ensures maximum recovery and prompt identification.
- Within 1 hour an ideal microaerobic atmosphere of 8-9% oxygen and 7-8% carbon dioxide is generated.



Thermo Scientific™ Oxoid™ CO_2Gen™/ CO_2Gen™ Compact

- Rapidly achieves a CO_2-enriched aerobic atmosphere.
- Ideal for the growth of CO_2-dependent organisms (that require a reduced oxygen, enhanced carbon dioxide environment).
- Allows maximum recovery and prompt identification.
- Improves the growth of fastidious organisms
- CO_2Gen provides an atmosphere reduced in oxygen and supplemented with carbon dioxide to a level of ~5% (v/v).



Easy to use

Remove the atmosphere-generating sachet from its packet and place it into the jar, box or pouch with the plates immediately before sealing. **Nothing else is required.**

Ordering information

Description		Quantity	Cat. No
AnaeroJar and AnaeroBoxes			
AnaeroJar Jar	2.5 L	1 jar	AG0025A
Rectangular AnaeroBox	2.5 L	1 box	AB0025A
	3.5 L	1 box	AB0035A
AnaeroJar and AnaeroBox Sachets			
AnaeroGen System Sachets	2.5 L	10 sachets	AN0025A
	3.5 L	10 sachets	AN0035A
CampyGen Sachets	2.5 L	10 sachets	CN0025A
	3.5 L	10 sachets	CN0035A
CO_2Gen Sachets	2.5 L	10 sachets	CD0025A
AnaeroJar ancillaries			
AnaeroJar Base		1 base	AG0026A
AnaeroJar Lid		1 lid	AG0027A
AnaeroJar Handle		1 handle	AG0028A
AnaeroJar Plate Carrier		1 carrier	AG0029A
AnaeroJar ´O´Ring		5 rings	AG0030A
AnaeroJar Clips		2 clips	AG0031A
Legacy 3.5L jar ancillaries			
Schrader Value Chuck and Clips		2	HP0020A
Plate Carrier – Stainless Steel		1	HP0026A
Pressure Release Valve		1 value	HP0016A
Compact System			
W-Zip Seal Pouches (integral seal)		20 pouches	AG0060C
Plastic Pouches[2]		20 pouches	AG0020C
Sealing Clips for Plastic Pouches		5 clips	AN0005C
Compact Sachets			
AnaeroGen[1] Compact		10 sachets & 10 pouches	AN0010C
AnaeroGen[1] W-Zip Compact		10 sachets & 10 W-Zip pouches	AN0010W
AnaeroGen[1] Compact Sachets for use in Plastic Pouches or W-Zip Pouches		10 sachets	AN0020D
CampyGen Compact Sachets for use in Plastic Pouches or W-Zip Pouches		20 sachets	CN0020C
CO_2Gen Compact Sachets for use in Plastic Pouches or W-Zip Pouches		20 Sachets	CD0020C
Indicators and catalysts			
Anaerobic Indicator		100 sachets	BR0055B
Anaerobic Low Temperature Catalyst		5 catalysts	BR0042B

1. Oxoid AnaeroGen System and Oxoid AnaeroGen Compact System require the Anaerobic Indicator (BR0055B).

2. Plastic Pouches are not self-sealing and thus the clips (AN0005C) and these pouches (AG0020C) need to be ordered together.

For more information, contact your local Thermo Fisher Scientific Microbiology representative or visit **thermofisher.com/AGS**

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

NUTRIENT AGAR CM0003

NUTRIENT AGAR CM0003

Typical Formula*

'Lab-Lemco' powder	grams per litre	1.0
Yeast extract		2.0
Peptone		5.0
Sodium chloride		5.0
Agar		15.0

* adjusted as required to meet performance standards

Directions

Suspend 28g in 1 litre of distilled water. Bring to the boil to dissolve completely. Sterilize by autoclaving at 121°C for 15 minutes. Cool to 50°C. Mix well and pour into sterile Petri dishes.

Physical Characteristics

Straw, free-flowing powder
Colour on reconstitution - straw 1-2
Moisture level - less than 7%
pH 7.4 ± 0.2 at 25°C
Clarity - clear
Gel strength - firm, comparable to 15.0g/litre of agar

The medium is tested for compatibility using 7% v/v oxalated horse blood, defibrinated horse blood or defibrinated sheep blood. There shall be no evidence of lysis or darkening, after incubation at 37°C, 25°C and 4°C for 72 hours.

Thermophiles shall be absent after incubation at 55°C for 3 days.

Microbiological Tests Using Optimum Inoculum Dilution

Control Medium: Nutrient Agar

Medium is challenged with 10-100 colony-forming units

Reactions after incubation at 37 ± 2°C for 24 ± 2 hours

Plain plates

Staphylococcus aureus	ATCC® 25923	1-2mm white/straw colonies
Pseudomonas aeruginosa	ATCC® 27853	1-3mm straw colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

NUTRIENT AGAR CM0003

Enriched with 7% v/v horse blood

Streptococcus pyogenes	ATCC® 19615	0.25-1mm colourless colonies, β haemolysis
Streptococcus pneumoniae	ATCC® 6303	1-2mm grey/green colonies, α haemolysis
Streptococcus pneumoniae	ATCC® 6305	0.5-1mm grey/green colonies, α haemolysis

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

Reactions after incubation in 5% CO_2 at 37 ± 2°C for 24 ± 2 hours
(for details, refer to Oxoid Manual - Atmosphere Generation Systems)

Enriched with 7% v/v horse blood

Haemophilus influenzae	ATCC® 19418	Pinpoint-0.25mm colourless colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

Testing performed in accordance with ISO11133:2014

Medium is challenged with 50-120 colony-forming units

Reactions after incubation at 30 ± 2°C for 24 ± 2 hours

Yersinia enterocolitica	ATCC® 23715	WDCM00160	1-3mm straw colonies
Yersinia enterocolitica	ATCC® 9610	WDCM00038	1-3mm straw colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

Reactions after incubation at 37 ± 2°C for 24 ± 2 hours

Escherichia coli	ATCC® 25922	WDCM00013	1-3mm straw colonies
Escherichia coli	ATCC® 8739	WDCM00012	1-3mm straw colonies
Salmonella typhimurium	ATCC® 14028	WDCM00031	1-3mm straw colonies
Salmonella enteritidis	ATCC® 13076	WDCM00030	1-3mm straw colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

NUTRIENT AGAR CM0003

Revision History

Section / Step	Description of Change	Reason for Change	Reference
Creation of ISO11133 section	Update to include testing of ISO11133:2014	Change control	BT-CC-1196

Distribution: Central File

Date: 27/08/14
Supersedes: 05/10/12

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

UREA AGAR BASE — CM0053

Typical Formula*

Peptone	grams per litre	1.0
Glucose		1.0
Sodium chloride		5.0
Di-sodium phosphate		1.2
Potassium dihydrogen phosphate		0.8
Phenol red		0.012
Agar		15.0

* adjusted as required to meet performance standards

Directions

Suspend 2.4g in 95ml of distilled water. Bring to the boil to dissolve completely. Sterilize by autoclaving at 115°C for 20 minutes. Cool to 50°C and aseptically add the contents of 1 vial of Urea 40% Solution (SR0020K). Mix well, aseptically dispense 10ml amounts into sterile containers and allow to set in the slope position.

Physical Characteristics

Orange/pink, free-flowing powder
Colour on reconstitution - orange
Moisture level - less than 7%
pH 6.8 ± 0.2 at 25°C
Clarity - clear
Gel strength - firm, comparable to 15.0g/litre of agar

Microbiological Tests Using Optimum Inoculum Dilution

Inoculate slopes of the medium with the test organisms.

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Reactions after incubation at 30°C for 6 hours

Morganella morganii	ATCC® 25830	Weak urease +ve, pale pink slope, or negative
Proteus mirabilis	ATCC® 29906	Urease +ve, pink slope

Reactions after incubation at 30°C for 24 hours

Morganella morganii	ATCC® 25830	Urease +ve, pink slope
Klebsiella pneumoniae	ATCC® 13883	Weak urease +ve, pale pink slope
Shigella sonnei	ATCC® 25931	Urease -ve, no colour change
Enterobacter aerogenes	ATCC® 13048	Urease -ve, no colour change
Escherichia coli	ATCC® 25922	Urease -ve, no colour change
Escherichia coli	ATCC® 11775	Urease -ve, no colour change

Salmonella nottingham	NCTC 7832	Urease -ve, no colour change

Reactions after incubation at 30°C for up to 72 hours

Candida albicans	ATCC® 10231	Urease -ve, no colour change
Cryptococcus albidus	ATCC® 34140	Weak urease +ve, pink slope

A satisfactory result is represented by reactions in accordance with the specification.

Distribution: Central File

Date: 07/06/17
Supersedes: 16/02/17

OXOID QUALITY ASSURANCE
PRODUCT SPECIFICATION

VIOLET RED BILE GLUCOSE AGAR CM0485

Typical Formula*

Yeast extract	grams per litre	3.0
Peptone		7.0
Sodium chloride		5.0
Bile salts No.3		1.5
Glucose		10.0
Neutral red		0.03
Crystal violet		0.002
Agar		12.0

* adjusted as required to meet performance standards

Directions

Suspend 38.5g in 1 litre of distilled water. With frequent agitation, bring to the boil to dissolve completely. Cool to 50°C. Mix well and pour into sterile Petri dishes or hold at 45°C when using the pour plate technique. DO NOT AUTOCLAVE.

Physical Characteristics

Straw/pink, free-flowing powder
Colour on reconstitution - purple
Moisture level - less than 7%
pH 7.4 ± 0.2 at 25°C
Clarity - clear
Gel strength - firm, comparable to 12.0g/litre of agar

Microbiological Tests Using Optimum Inoculum Dilution

Control Medium: Tryptone Soya Agar

Reactions after incubation at 37°C for 24 hours

Inoculation using pour plate technique

Medium is challenged with 50-150 colony-forming units

Klebsiella pneumoniae	ATCC® 29665	1-2mm purple/pink colonies and halo
Proteus mirabilis	ATCC® 12453	Pinpoint-1mm purple/pink colonies with/without halo

A satisfactory result for pour plate technique is represented by recovery of positive strains equal to or greater than 50% of the control medium.

There shall be no gassing in the medium.

Inoculation using surface plate technique

Medium is challenged with 10-100 colony-forming units

Shigella sonnei	ATCC® 25931	1-3mm irregular purple/pink colonies and halo
Enterobacter aerogenes	ATCC® 13048	1-4mm purple/pink mucoid colonies and halo
Pseudomonas aeruginosa	ATCC® 9027	1-3mm straw colonies, no halo

A satisfactory result for surface plate technique is represented by recovery of positive strains equal to or greater than 50% of the control medium.

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Staphylococcus aureus	ATCC® 6538	No growth

Negative strains are inhibited.

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Proteus mirabilis	ATCC® 12453	0.5-2mm purple/pink colonies, no swarming

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Testing performed in accordance with ISO11133:2014

Reactions after incubation at 37 ± 2°C for 24 ± 2 hours

Inoculation using pour plate technique

Medium is challenged with 50-100 colony-forming units

Escherichia coli	ATCC® 8739	WDCM00012	1-2mm purple/pink colonies and halo

Medium is challenged with 50-120 colony-forming units

Escherichia coli	ATCC® 25922	WDCM00013	1-2mm purple/pink colonies and halo
Salmonella typhimurium	ATCC® 14028	WDCM00031	0.5-2mm purple/pink colonies with/without halo
Salmonella enteritidis	ATCC® 13076	WDCM00030	0.5-2mm purple/pink colonies with/without halo

A satisfactory result for pour plate technique is represented by recovery of positive strains equal to or greater than 50% of the control medium.
There shall be no gassing in the medium.

Inoculation using surface plate technique

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Enterococcus faecalis	ATCC® 29212	WDCM00087	No growth
Enterococcus faecalis	ATCC® 19433	WDCM00009	No growth

Negative strains are inhibited.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

TRYPTONE BILE X-GLUCURONIDE MEDIUM (TBX) CM0945

TRYPTONE BILE X-GLUCURONIDE MEDIUM (TBX) **CM0945**

Typical Formula*

Tryptone	grams per litre	20.0
Bile salts No.3		1.5
X-glucuronide		0.075
Agar		15.0

* adjusted as required to meet performance standards

Directions

Suspend 36.6g in 1 litre of distilled water. Bring gently to the boil to dissolve completely. Sterilize by autoclaving at 121°C for 15 minutes. Cool to 50°C and pour 15ml of the medium into sterile Petri dishes or hold at 45°C when using the pour plate technique.

Physical Characteristics

Straw, free-flowing powder
Colour on reconstitution - straw 2-3
Moisture level - less than 7%
pH 7.2 ± 0.2 at 25°C
Clarity - clear
Gel strength - firm, comparable to 15.0g/litre of agar

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

TRYPTONE BILE X-GLUCURONIDE MEDIUM (TBX) CM0945

Microbiological Tests Using Optimum Inoculum Dilution

Control Medium: Tryptone Soya Agar

Reactions after incubation at 44 ± 2°C for 21 ± 3 hours

Stack all plates not more than 3 high in plastic bags containing damp cotton wool, seal bags with tape.

Inoculation using pour plate technique

Medium is challenged with 30-100 colony-forming units

Escherichia coli	ATCC®11775	1-2mm blue/green colonies
Klebsiella pneumoniae	ATCC®29665	1-2mm straw colonies

A satisfactory result for *Escherichia coli* strains is represented by recovery equal to or greater than 70% of the control medium.

For *Klebsiella pneumoniae* ATCC®29665, a satisfactory result is represented by recovery of positive strains equal to or greater than 50% of the control medium.

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Klebsiella aerogenes	NCTC9528	No growth

Negative strains are inhibited.

Testing performed in accordance with ISO11133: 2014

Reactions after incubation at 44 ± 2°C for 21 ± 3 hours

Inoculation using pour plate technique

Medium is challenged with 50-120 colony-forming units

Escherichia coli	ATCC®25922	WDCM00013	1-2mm blue/green colonies
Escherichia coli	ATCC®8739	WDCM00012	1-2mm blue/green colonies
Escherichia coli	NCTC13216	WDCM00202	1-2mm blue/green colonies

A satisfactory result for *Escherichia coli* strains is represented by recovery equal to or greater than 70% of the control medium.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

TRYPTONE BILE X-GLUCURONIDE MEDIUM (TBX) CM0945

Inoculation using surface plate technique

Medium is challenged with 50-120 colony-forming units

Escherichia coli	ATCC®25922	WDCM00013	1-2mm blue/green colonies
Escherichia coli	ATCC®8739	WDCM00012	1-2mm blue/green colonies
Escherichia coli	NCTC13216	WDCM00202	1-2mm blue/green colonies

A satisfactory result for *Escherichia coli* strains is represented by recovery equal to or greater than 70% of the control medium.

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Enterococcus faecalis	ATCC®19433	WDCM00009	No growth

Negative strains are inhibited.

Medium is challenged with 1E+04 to 1E+05 colony-forming units

Enterococcus faecalis	ATCC®29212	WDCM00087	No growth

Negative strains are inhibited.

Medium is challenged with 1E+03 to 1E+04 colony-forming units

Citrobacter freundii	ATCC®43864	WDCM00006	No growth or 1-2mm white to green/beige colonies
Pseudomonas aeruginosa	ATCC®27853	WDCM00025	No growth or 1-2mm white to green/beige colonies

Inoculation using membrane filtration technique

Medium is challenged with 50-120 colony-forming units

Escherichia coli	ATCC®25922	WDCM00013	1-2mm blue/green colonies
Escherichia coli	ATCC®8739	WDCM00012	1-2mm blue/green colonies
Escherichia coli	NCTC13216	WDCM00202	1-2mm blue/green colonies

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

TRYPTONE BILE X-GLUCURONIDE MEDIUM (TBX) CM0945

A satisfactory result for *Escherichia coli* strains is represented by recovery equal to or greater than 70% of the control medium.

Revision History

Section / Step	Description of Change	Reason for Change	Reference
Entire Document	Reformatting to new template Update to test specification	Change control	BT-CC-1561
Entire document	Change title typographical error. Addition of *Klebsiella aerogenes* NCTC9528	Change control	BT-CC-2204

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

M.R.S. (ISO) AGAR CM1153

M.R.S. (ISO) AGAR **CM1153**

Typical Formula*

Enzymatic digest of casein	grams per litre	10.0
Meat extract		10.0
Yeast extract		4.0
Tri-ammonium citrate		2.0
Sodium acetate		5.0
Magnesium sulphate heptahydrate		0.2
Manganese sulphate tetrahydrate		0.05
Di-potassium hydrogen phosphate		2.0
Sorbitan mono-oleate		1.08
Glucose		20.0
Agar		12.37

*adjusted to meet performance standards

Directions

Suspend 66.7g in 1 litre of distilled water. Bring to the boil to dissolve completely. Sterilize by autoclaving at 121°C for 15 minutes. Mix well and pour into sterile Petri dishes.

Physical Characteristics

Dark straw, free-flowing powder
Colour on reconstitution – brown/orange
Moisture level- less than or equal to 7%
pH 5.7 ± 0.1 at 25°C
Clarity - clear
Gel strength - firm comparable to 12.37g/litre of agar

Microbiological Tests Using Optimum Inoculum Dilution

Control Medium: M.R.S. Agar or Tryptone Soya Agar

Reactions after incubation at 30 ± 2°C for 72 ± 3 hours under microaerophilic conditions

Medium is challenged with 10-100 colony-forming units

Lactobacillus gasseri	ATCC®19992	0.5-2mm pale straw colonies

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

M.R.S. (ISO) AGAR CM1153

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

Testing performed in accordance with ISO11133:2014

Reactions after incubation at 30 ± 2°C for 72 ± 3 hours under microaerophilic conditions

Medium is challenged with 50-120 colony-forming units

Lactobacillus sakei	ATCC®15521	WDCM00015	0.5-2mm pale straw colonies
Lactococcus lactis	ATCC®19435	WDCM00016	0.5-2mm cream colonies
Pediococcus pentosaceus	ATCC®33316	WDCM00158	ppt-3mm cream colonies

A satisfactory result is represented by recovery of positive strains equal to or greater than 70% of the control medium.

Medium is challenged with 1E+04 to 1E+06 colony-forming units

Escherichia coli	ATCC®25922	WDCM00013	No growth
Escherichia coli	ATCC®8739	WDCM00012	No growth
Bacillus cereus	ATCC®11778	WDCM00001	No growth

Negative strains are inhibited.

OXOID QUALITY ASSURANCE PRODUCT SPECIFICATION

M.R.S. (ISO) AGAR CM1153

Revision History

Section / Step	Description of Change	Reason for Change	Reference
Entire document	Creation of new document	Change control	BT-CC-1368
Typical formula/ Physical characteristics	Correction of typographical errors. pH range changed to the correct limits.	Change control	BT-CC-2783