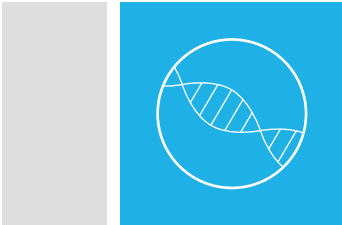


Food and Environmental Testing



Food Safety and Quality Reference Guide

BIO-RAD

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ISO Standards

ISO 6887-1:2017

Preparation of test samples, initial suspension, and tenfold dilutions for microbiological examination

Part 1: General rules for preparation of dilutions for microbiological examination

m g or v ml sample
+
 $9 \times m$ g or $9 \times v$ ml
Tryptone Salt Diluent or **BPW**
(and following dilutions)



Dilution 10^{-1}



(and following dilutions)

ISO 4833-1:2013

Horizontal method for the enumeration of microorganisms

Part 1: Colony count at 30°C by the pour-plate technique

Sample/initial suspension




Dilutions



PCA



 $30 \pm 1^{\circ}\text{C}$
 72 ± 3 hr

Enumeration of microorganisms

Total Flora



Bacteria



PCA

ISO Standard

ISO 4833-2:2013

Horizontal method for the enumeration of microorganisms

Part 2: Colony count at 30°C by the surface-plating technique

Sample/initial suspension

↓ Dilutions



PCA

↓  30 ± 1°C
72 ± 3 hr

Enumeration of microorganisms

Ordering Information

Catalog # Description

Buffered Peptone Water (BPW)

BPW Plus

Ready to use

3554101	100 ml x 6 bottles
3554179	225 ml x 6 bottles
3555790	5 L x 2 bags
3555795	3 L x 4 bags

Dehydrated

3564684	500 g
3564686	5 kg

BPW Standard

Ready to use

12013260	5 L x 2 bags
----------	--------------

Dehydrated

12013258	5 kg
12013259	500 g

Plate Count Agar (PCA)

Ready to use

3554457	200 ml x 6 bottles
3554459	100 ml x 6 bottles
3563989	90 mm x 20 dishes

Dehydrated

3564475	500 g
---------	-------

Tryptone Salt Diluent

Ready to use

3555732	225 ml x 6 bottles
3555754	9 ml x 25 tubes
3555756	90 ml x 6 bottles
3555796	3 L x 4 bags

Dehydrated

3564544	500 g
---------	-------

Escherichia coli

ISO Standards

ISO 16649-1:2018

Horizontal method for the enumeration of β -glucuronidase-positive *E. coli*

Part 1: Colony-count technique at 44°C using membranes and 5-bromo-4-chloro-3-indolyl β -D-glucuronide

Sample/initial suspension

Dilutions ↓

Minerals modified glutamate agar with membrane

Resuscitation ↓  Room temperature
15 min and 37°C
4 hr ± 15 min



TBX

↓  44°C
22 ± 2 hr

Direct enumeration

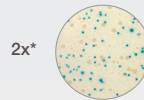
ISO 16649-2:2001

Horizontal method for the enumeration of β -glucuronidase-positive *E. coli*

Part 2: Colony-count technique at 44°C using 5-bromo-4-chloro-3-indolyl β -D-glucuronide

Sample/initial suspension

Dilutions ↓



TBX

↓  44°C
21 ± 3 hr

Direct enumeration

* Please refer to ISO 7218:2007.

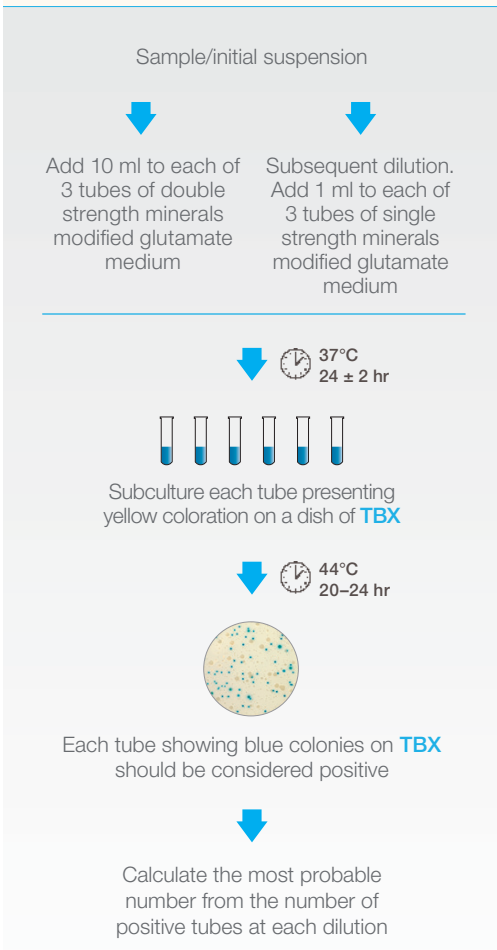
Escherichia coli

ISO Standards

ISO 16649-3:2015

Horizontal method for the enumeration of β -glucuronidase-positive *E. coli*

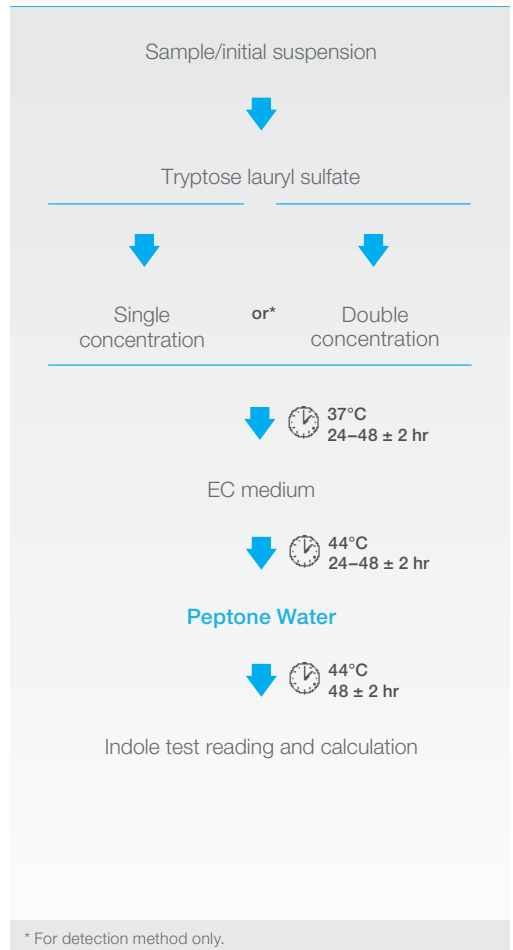
Part 3: Most probable number technique using 5-bromo-4-chloro-3-indolyl β -D-glucuronide



ISO 7251:2005

General guidance for detection and enumeration of presumptive *E. coli*

Most probable number technique



Escherichia coli

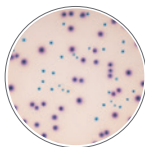


E. coli



Other
Coliforms

Total Coliforms



RAPID'*E.coli* 2

Alternative Method

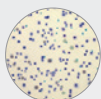
RAPID'*E.coli* 2

Enumeration of *E. coli*



Sample/initial suspension

Dilutions



RAPID'*E.coli* 2



37 or 44°C
21 ± 3 hr

Direct enumeration of typical colonies*

Ordering Information

Catalog # Description

Buffered Peptone Water (BPW)

BPW Plus

Ready to use

3554101	100 ml x 6 bottles
3554179	225 ml x 6 bottles
3555790	5 L x 2 bags
3555795	3 L x 4 bags

Dehydrated

3564684	500 g
3564686	5 kg

BPW Standard

Ready to use

12013260	5 L x 2 bags
----------	--------------

Dehydrated

12013258	5 kg
12013259	500 g

Kovacs Reagent

(for indole detection)

3555313	15 ml x 2 bottles
---------	-------------------

RAPID'*E.coli* 2 Agar

Ready to use

3555297	200 ml x 6 bottles
3555299	100 ml x 6 bottles

Dehydrated

3564024	500 g
---------	-------

Tryptone Bile X-Glucuronide (TBX) Agar

Ready to use

3555309	100 ml x 6 bottles
---------	--------------------

Dehydrated

3564035	500 g
---------	-------

Tryptone Salt Diluent

Ready to use

3555732	225 ml x 6 bottles
3555754	9 ml x 25 tubes
3555756	90 ml x 6 bottles
3555796	3 L x 4 bags

Dehydrated

3564544	500 g
---------	-------

* Enumeration of typical colonies for *E. coli* and coliforms at 37°C; *E. coli* at 44°C.

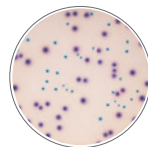
Coliforms



E. coli



Other Coliforms



Total Coliforms

RAPID *E. coli* 2

Alternative Method

RAPID *E. coli* 2

Enumeration of coliforms



Sample/initial suspension

Dilutions



RAPID *E. coli* 2



37°C
21 ± 3 hr

Direct enumeration of typical colonies*

Ordering Information

Catalog # Description

Brilliant Green Bile Lactose Broth (BGBLB)

Ready to use

3578024 10 ml x 25 tubes

Buffered Peptone Water (BPW)

BPW Plus

Ready to use

3554101 100 ml x 6 bottles

3554179 225 ml x 6 bottles

3555790 5 L x 2 bags

3555795 3 L x 4 bags

Dehydrated

3564684 500 g

3564686 5 kg

BPW Standard

Ready to use

12013260 5 L x 2 bags

Dehydrated

12013258 5 kg

12013259 500 g

RAPID *E. coli* 2 Agar

Ready to use

3555297 200 ml x 6 bottles

3555299 100 ml x 6 bottles

Dehydrated

3564024 500 g

Tryptone Salt Diluent

Ready to use

3555732 225 ml x 6 bottles

3555754 9 ml x 25 tubes

3555756 90 ml x 6 bottles

3555796 3 L x 4 bags

Dehydrated

3564544 500 g

Violet Red Bile Lactose (VRBL) Agar

Ready to use

3554798 200 ml x 6 bottles

3554799 100 ml x 6 bottles

Dehydrated

3564594 500 g

* Enumeration of typical colonies for *E. coli* and coliforms at 37°C; *E. coli* at 44°C.

Enterobacteriaceae



Enterobacteriaceae



VRBG

ISO Standards

ISO 21528-1:2017

Horizontal methods for the detection and enumeration of *Enterobacteriaceae*

Microbiology of food and animal feeding stuffs

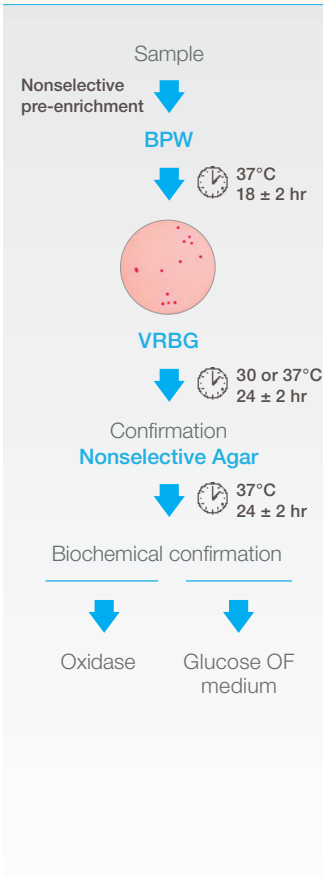
Part 1: Detection and enumeration by MPN technique with pre-enrichment

ISO 21528-2:2017

Horizontal methods for the detection and enumeration of *Enterobacteriaceae*

Microbiology of food and animal feeding stuffs

Part 2: Colony-count technique



* Please refer to ISO 7218:2007.

Ordering Information

Catalog # Description

Buffered Peptone Water (BPW)

BPW Plus

Ready to use

3554101	100 ml x 6 bottles
3554179	225 ml x 6 bottles
3555790	5 L x 2 bags
3555795	3 L x 4 bags

Dehydrated

3564684	500 g
3564686	5 kg

BPW Standard

Ready to use

12013260	5 L x 2 bags
----------	--------------

Dehydrated

12013258	5 kg
12013259	500 g

Nutrient (2.8%) Agar

Dehydrated

12017540	500 g
----------	-------

Violet Red Bile Glucose (VRBG) Agar

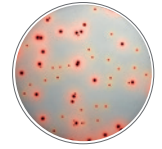
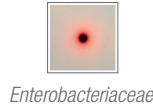
Ready to use

3554239	100 ml x 6 bottles
---------	--------------------

Dehydrated

3564584	500 g
---------	-------

Enterobacteriaceae



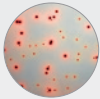
Alternative Methods

RAPID® Enterobacteriaceae Enumeration of Enterobacteriaceae



Sample/initial suspension

Dilutions



RAPID® Enterobacteriaceae

37* ± 1°C
24 ± 2 hr

Direct enumeration**

iQ-Check Enterobacteriaceae Real-Time PCR Kit

Detection of *Enterobacteriaceae* in powdered infant formula with and without probiotics or in ingredients



Up to 10 g
sample

Up to 375 g
sample

BPW
1:10 dilution +
PIF
Supplement

BPW
1:4 dilution +
PIF
Supplement

37°C
18–22 hr



Real-time PCR amplification
and detection with
iQ-Check
Enterobacteriaceae



Automatic results analysis
and interpretation

Confirmation of positive
results with
RAPID® Enterobacteriaceae

Ordering Information

Catalog # Description

Buffered Peptone Water (BPW)

BPW Plus

Ready to use

3554101	100 ml x 6 bottles
3554179	225 ml x 6 bottles
3555790	5 L x 2 bags
3555795	3 L x 4 bags

Dehydrated

3564684	500 g
3564686	5 kg

BPW Standard

Ready to use

12013260	5 L x 2 bags
----------	--------------

Dehydrated

12013258	5 kg
12013259	500 g

iQ-Check Enterobacteriaceae Kit

12003068	96 tests
----------	----------

iQ-Check Free DNA Removal Solution

3594970	175 mg
---------	--------

PIF Supplement

12013322	2 g
----------	-----

RAPID® Enterobacteriaceae Agar

Ready to use

3554012	200 ml x 6 bottles
---------	--------------------

Dehydrated

3564004	500 g
---------	-------

Tryptone Salt Diluent

Ready to use

3555732	225 ml x 6 bottles
3555754	9 ml x 25 tubes
3555756	90 ml x 6 bottles
3555796	3 L x 4 bags

Dehydrated

3564544	500 g
---------	-------

* Alternatively, a temperature of 30 or 35°C can be chosen.

** Suitable with an automatic plate counter.

Salmonella spp.

ISO Standard

ISO 6579-1:2017/A1:2020

Horizontal method for the detection, enumeration, and serotyping of *Salmonella* spp.

Microbiology of the food chain

Part 1: Detection of *Salmonella* spp.

Sample



BPW

Pre-enrichment



34–38°C
18 ± 2 hr

RVS
or MSRV

Selective
enrichment



41.5 ± 1°C
24 ± 3 hr

and

34–38°C
18 ± 2 hr

MKTn

34–38°C
24 ± 3 hr

Plating



XLD

Selective isolation



34–38°C
24 ± 3 hr

Confirmation

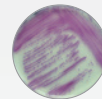
Nutrient 2.1%



34–38°C
24 ± 3 hr

Biochemical and
serological* confirmation

and



RAPID[®] *Salmonella* or XLT 4
or Kristensen or Hektoen

34–38°C
24 ± 3 hr

Nutrient 2.1%

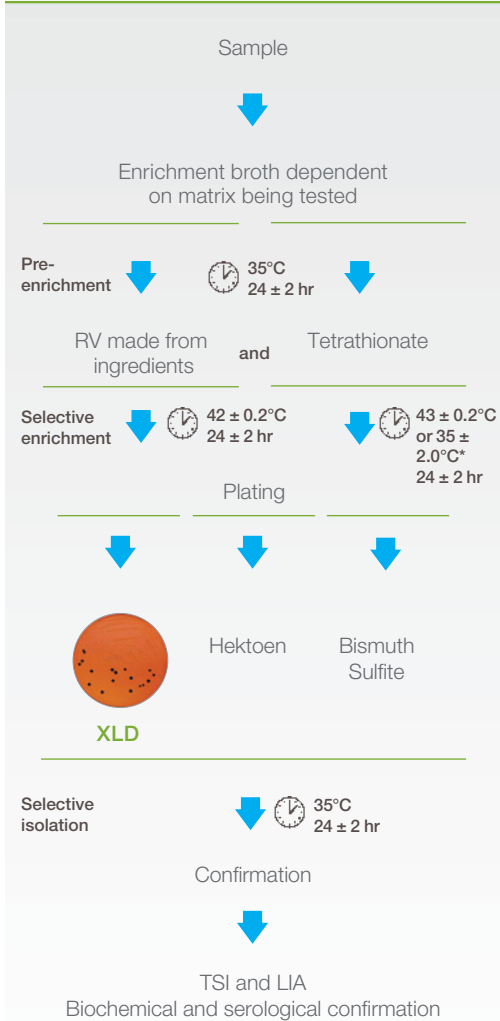


Biochemical and
serological* confirmation

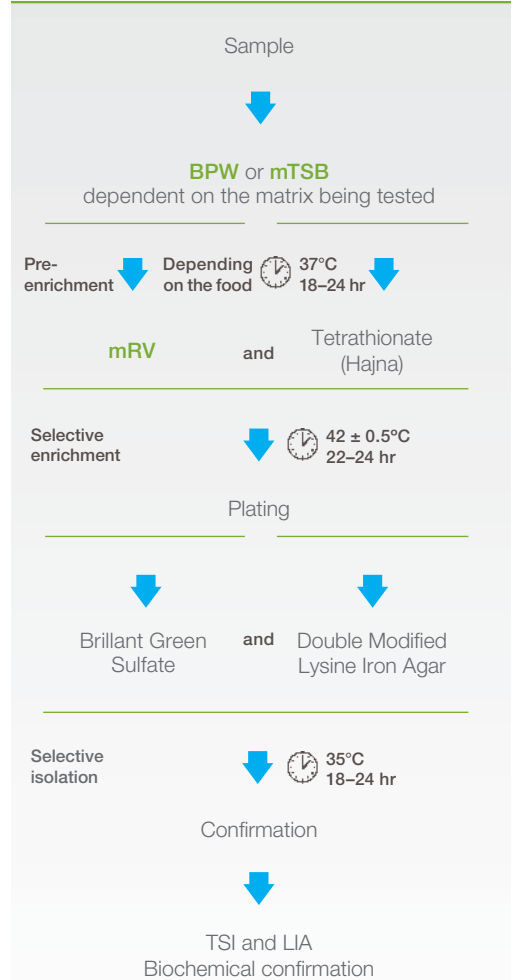
* For details on serotyping, review ISO 6579-3.

Salmonella spp.

FDA BAM Protocol



USDA FSIS MLG Protocol



* Temperature based on low or high microbial load.

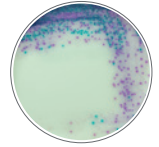
Salmonella spp.



Salmonella
spp.



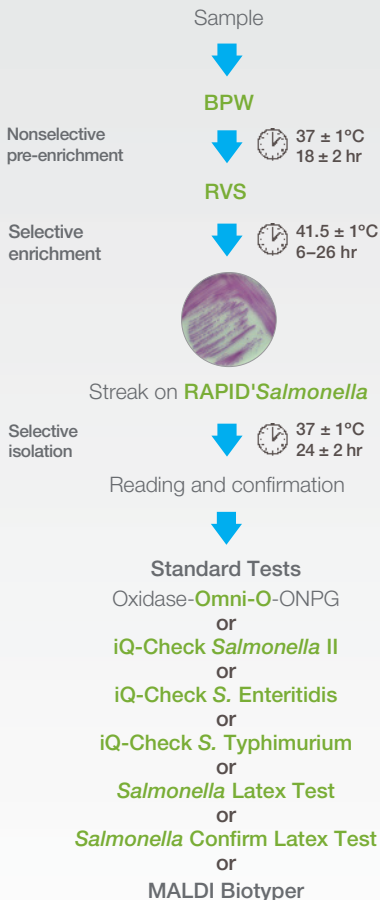
Other
Enterobacteriaceae



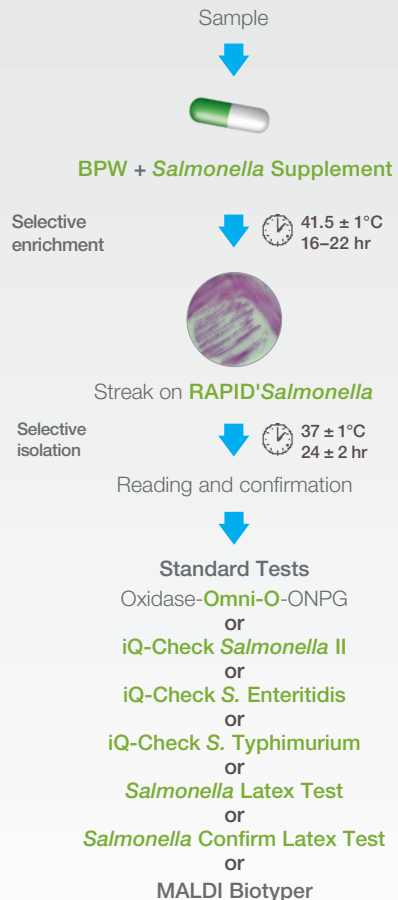
RAPID Salmonella

Alternative Methods

RAPID Salmonella Double Enrichment Protocol Detection of Salmonella spp.



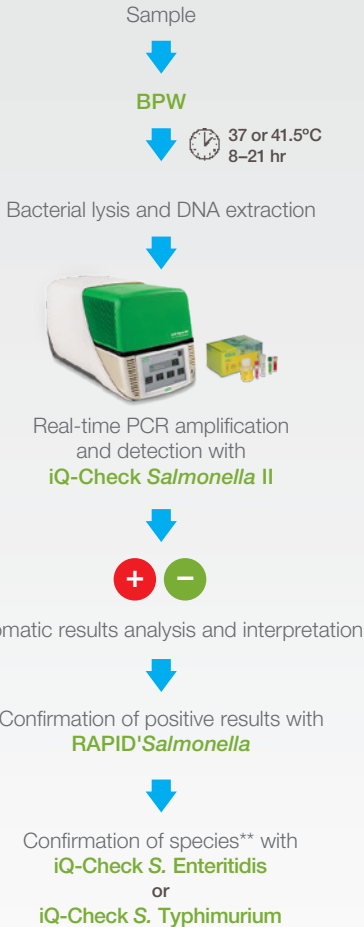
RAPID Salmonella Short Protocol Detection of Salmonella spp.



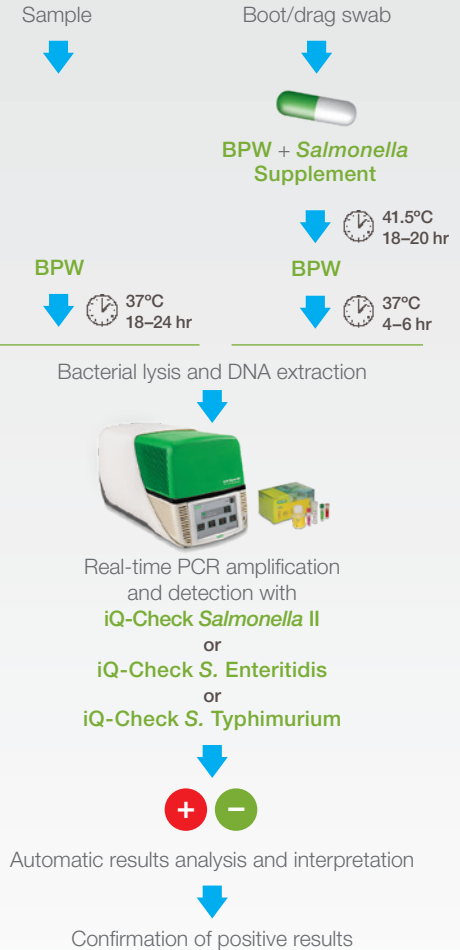
Salmonella spp.

Alternative Methods

iQ-Check *Salmonella* II Real-Time PCR Kit Detection of *Salmonella* spp.



iQ-Check *Salmonella* II, iQ-Check *S. Enteritidis*, and iQ-Check *S. Typhimurium* Real-Time PCR Kits Detection of *S. Enteritidis* and *S. Typhimurium*



* NF Validation on iQ-Check *Salmonella* II Real-Time PCR Kit only.

** Can be used as part of an overall confirmation method.

Salmonella spp.

Ordering Information

Catalog #	Description	Catalog #	Description	Catalog #	Description	
Antiserum <i>Salmonella</i> Omnivalent Omni-O (A-60)			Muller Kauffmann Tetrathionate Novobiocin (MKTTN) Broth Ready to use			
3560781B	3 ml dropper bottle	3556140	10 ml x 50 tubes	3564709	Enough for 2.5 L x 100 capsules	
Brilliant Green (Kristensen) Agar Dehydrated			Dehydrated base			
3564464	500 g	3564714	500 g	3564710	Enough for 250 ml x 100 capsules	
Buffered Peptone Water (BPW)			Modified Semi-Solid Rappaport Vassiliadis (MSRV, mRV) Medium Ready to use			
BPW Plus Ready to use			Dehydrated			
3554101	100 ml x 6 bottles	3556139	200 ml x 6 bottles	3555773	10 ml x 25 tubes	
3554179	225 ml x 6 bottles	Dehydrated			3564324	500 g
3555790	5 L x 2 bags	Modified Tryptic Soy Broth (mTSB) Ready to use (containing novobiocin)			Salmonella Latex Test	
3555795	3 L x 4 bags	3555426	225 ml x 6 bottles	Detection of groups B to E and G		
Dehydrated			Dehydrated base			
3564684	500 g	3564426	500 g	3556710	75 tests	
3564686	5 kg	Nutrient (2.1%) Agar Dehydrated			Salmonella Confirm Latex Test	
BPW Standard Ready to use			PIF Supplement			
12013260	5 L x 2 bags	12013322	2 g	3556711	50 tests	
Dehydrated			RAPID'Salmonella Agar Ready to use			
12013258	5 kg	3563961	90 mm x 20 dishes	Selenite-Cystine Broth Complete medium		
12013259	500 g	3563963	90 mm x 120 dishes	3555746	10 ml x 25 tubes	
iQ-Check Free DNA Removal Solution			Dehydrated			
3594970	175 mg	3564705	500 g	Xylose Lysine Desoxycholate (XLD) Agar Ready to use		
iQ-Check Purification Reagent			RAPID'Salmonella Agar Ready to use			
12012383	2.5 g	Dehydrated			3541751	90 mm x 20 dishes
iQ-Check Salmonella II Kit			Dehydrated			
3578123	96 tests	Dehydrated			3569124	500 g
iQ-Check S. Enteritidis Kit			Dehydrated			
3578142	96 tests	Dehydrated			Dehydrated	
iQ-Check S. Typhimurium Kit			Dehydrated			
12004306	96 tests	Dehydrated			Dehydrated	

Visit bio-rad.com/antisera for a complete list of our *Salmonella* antisera.

Cronobacter spp.

ISO Standard

ISO 22964:2017

Horizontal method for the detection of *Cronobacter* spp.

Microbiology of the food chain

Sample preparation
Weigh 10 g or 10 ml test portion in 90 ml
BPW



Selective enrichment
Transfer 0.1 ml into 10 ml *Cronobacter*
Selective Broth



Streak on Chromogenic *Cronobacter*
Isolation Agar



Transfer 1 to 5 colonies
on **Nonselective Agar**



Biochemical confirmation

FDA BAM Protocol

Sample



1:10
BPW



40 ml



Centrifuge 3,000 x g for 10 min
Decant supernatant
Resuspend pellet in 200 µl
phosphate buffered saline



Spread and
streak plates
100 µl



DFI
agar R&F
agar PCR



Typical colonies from each
plate are confirmed with real-time
PCR and other techniques

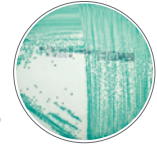
Cronobacter spp.



Cronobacter spp.



Other *Enterobacteriaceae*



RAPID[®] *Sakazakii*

Alternative Methods

RAPID[®] *Sakazakii*

Detection of *Cronobacter* spp.



Sample preparation
Weigh *m* g of the test portion
in *v* ml
BPW

↓ ⌚ 37°C
18 ± 2 hr



Streak on
RAPID[®] *Sakazakii*

↓ ⌚ 44 ± 1°C
24 ± 2 hr

Reading and confirmation



Standard Tests
or
iQ-Check *Cronobacter*

iQ-Check *Cronobacter* spp. Real-Time PCR Kit

Detection of *Cronobacter* spp.



Environmental sample



BPW

↓ ⌚ 37°C
18 ± 2 hr

Infant formula (up to 30 g)



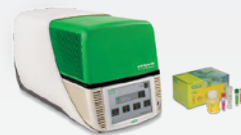
Supplemented
BPW + Vancomycin

↓ ⌚ 37°C
20 ± 2 hr

BPW

↓ ⌚ 37°C
4 ± 1 hr

Bacterial lysis and DNA extraction



Real-time PCR amplification and detection with
iQ-Check *Cronobacter* spp.



Automatic results analysis and interpretation



Confirmation of positive result with
RAPID[®] *Sakazakii*

Cronobacter spp. and Salmonella spp.

Alternative Method

iQ-Check Cronobacter and iQ-Check Salmonella Real-Time PCR Kits or RAPID[®] Sakazakii and RAPID[®] Salmonella
 Simultaneous detection of *Salmonella* and *Cronobacter* in powdered infant formula and cereals with and without probiotics and in ingredients



Up to 375 g of sample



BPW 1:4 dilution + PIF Supplement



37°C
 18–24 hr (RAPID[®])
 18–26 hr (iQ-Check)



Screening*



Salmonella spp.

iQ-Check Salmonella
 or
RAPID[®] Salmonella



Cronobacter spp.

iQ-Check Cronobacter
 or
RAPID[®] Sakazakii

Ordering Information

Catalog # Description

Buffered Peptone Water (BPW)

BPW Plus

Ready to use

3554101	100 ml x 6 bottles
3554179	225 ml x 6 bottles
3555790	5 L x 2 bags
3555795	3 L x 4 bags

Dehydrated

3564684	500 g
3564686	5 kg

BPW Standard

Ready to use

12013260	5 L x 2 bags
----------	--------------

Dehydrated

12013258	5 kg
12013259	500 g

iQ-Check Cronobacter spp.

3578137	96 tests
---------	----------

iQ-Check Free DNA Removal Solution

3594970	175 mg
---------	--------

iQ-Check Purification Reagent

12012383	2.5 g
----------	-------

iQ-Check Salmonella II Kit

3578123	96 tests
---------	----------

PIF Supplement

12013322	2 g
----------	-----

RAPID[®] Sakazakii Agar

Ready to use

3563971	90 mm x 20 dishes
---------	-------------------

Dehydrated

3564976	500 g
---------	-------

RAPID[®] Salmonella Agar

Ready to use

3563961	90 mm x 20 dishes
3563963	90 mm x 120 dishes

Dehydrated

3564705	500 g
---------	-------

Trypto-Casein-Soy Agar (TSA)

Ready to use

3563884B	90 mm x 20 dishes
----------	-------------------

Dehydrated

3564554	500 g
---------	-------

Vancomycin Supplement

3564145	5 g
---------	-----

* AOAC approved for screening with iQ-Check *Enterobacteriaceae*.

Listeria monocytogenes

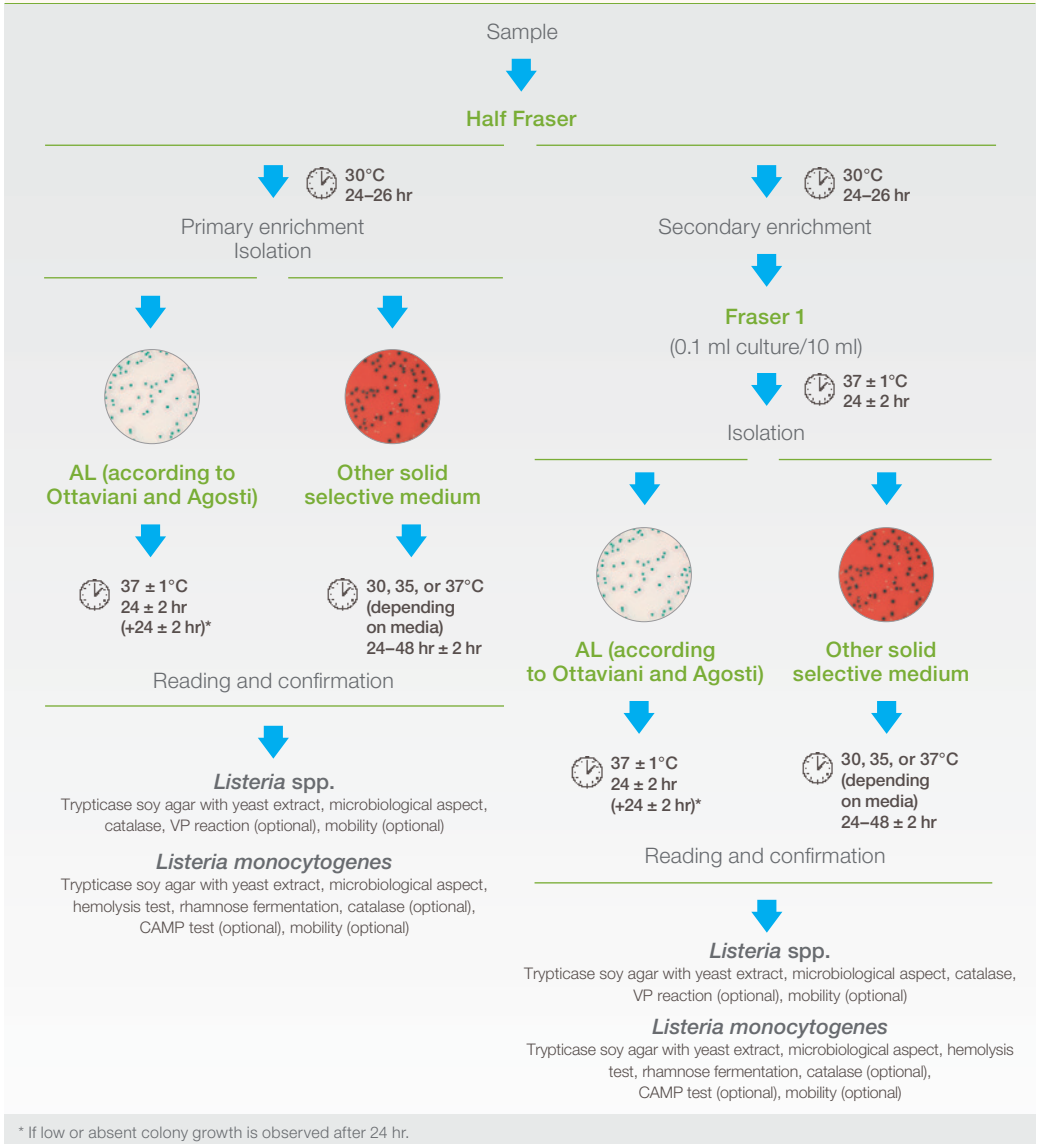
ISO Standard

ISO 11290-1:2017

Horizontal method for the detection and enumeration of *L. monocytogenes*

Microbiology of the food chain

Part 1: Detection method



* If low or absent colony growth is observed after 24 hr.

Listeria monocytogenes

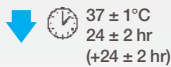
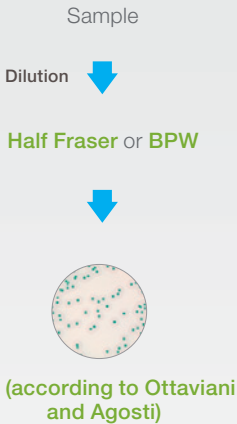
ISO Standard

ISO 11290-2:2017

Horizontal method for the detection and enumeration of *L. monocytogenes*

Microbiology of the food chain

Part 2: Enumeration method



Enumeration and confirmation tests



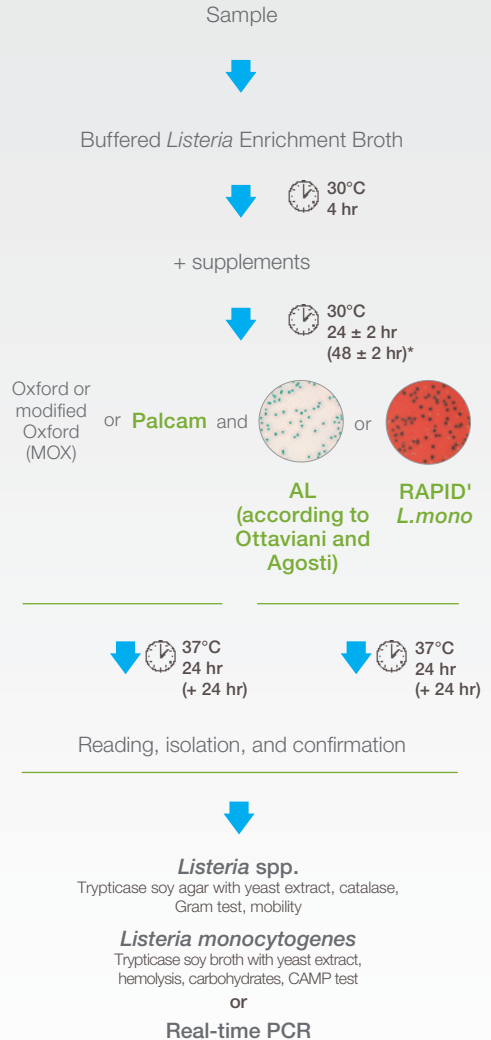
Listeria spp.

Trypticase soy agar with yeast extract, microbiological aspect, catalase, VP reaction (optional), mobility (optional)

Listeria monocytogenes

Trypticase soy agar with yeast extract, microbiological aspect, hemolysis test, rhamnose fermentation, catalase (optional), CAMP test (optional), mobility (optional)

FDA BAM Protocol



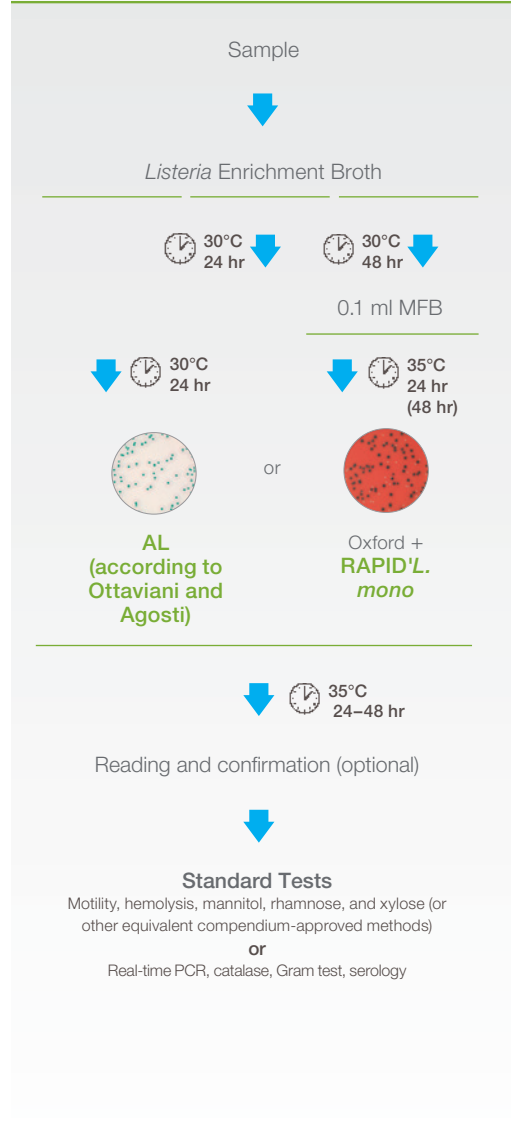
* If low or absent colony growth is observed after 24 hr.

Listeria monocytogenes

USDA FSIS MGL Protocol



Health Canada Protocol



Listeria monocytogenes



L. mono



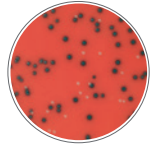
L. ivanovii



L. innocua



L. welshimeri



RAPID'*L. mono*

Alternative Methods

RAPID'*L. mono*

Detection of *Listeria monocytogenes*



Sample



Half Fraser



30°C
24 ± 2 hr



Isolation on RAPID'*L. mono*



37°C
24 ± 2 hr

Reading and confirmation



Standard Tests
or
iQ-Check *Listeria monocytogenes* II
or
Rhamnose Test

RAPID'*L. mono*

Enumeration of *Listeria monocytogenes*



Sample



BPW



20°C
1 hr
(optional)



Isolation on RAPID'*L. mono*



37°C
24 ± 2 hr

Direct enumeration



Standard Tests
or
iQ-Check *Listeria monocytogenes* II
or
Rhamnose Test

Listeria monocytogenes



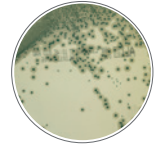
L. monocytogenes



Listeria spp.



Non-*Listeria*



AL (Agar *Listeria* according to Ottaviani and Agosti)

Alternative Methods

AL (Agar *Listeria* according to Ottaviani and Agosti) Detection of *Listeria monocytogenes*



Sample



Half Fraser



30°C
18–28 hr



Isolation on AL



37°C
24 ± 2 hr

Reading and confirmation tests



Standard Tests
or
Spot on **RAPID[®]L.mono**
or
iQ-Check *Listeria monocytogenes* II
or
Rhamnose Test

AL (Agar *Listeria* according to Ottaviani and Agosti) Enumeration of *Listeria monocytogenes*



Sample

Resuscitation



BPW
or **Half Fraser**



AL



37 ± 1°C
48 ± 3 hr

Direct enumeration



Standard Tests
or
Spot on **RAPID[®]L.mono**
or
iQ-Check *Listeria monocytogenes* II
or
Rhamnose Test

Listeria monocytogenes

Alternative Method

iQ-Check *Listeria monocytogenes* II Real-Time PCR Kit Detection of *Listeria monocytogenes*



Sample



LSB or LSB II or Half Fraser



30°C
18–26 hr
(LSB)

or

30°C
25 ± 1 hr
(Half Fraser
Broth and LSB)

or

37 ± 1°C
21 ± 3 hr
(LSB II)

Bacterial lysis and DNA extraction standard
(add LSB or LSB II) or easy (LSB or LSB II)



Real-time PCR amplification and detection with
iQ-Check *Listeria monocytogenes* II



Automatic results analysis and interpretation



Confirmation of positive results with
RAPID[®] *Listeria* spp.
or
RAPID[®] *L.mono*

Listeria monocytogenes

Ordering Information

Catalog # Description

AL (Agar *Listeria* according to Ottaviani and Agosti)

Ready to use

3563695 90 mm x 20 dishes
3563965 90 mm x 120 dishes

Dehydrated base

3564043 500 g

Base in vials (to be supplemented)

3555200 237.5 ml x 6 bottles

Supplement 1

3564041 10 vials

Supplement 2

3564042 10 vials

Buffered Peptone Water (BPW)

BPW Plus

Ready to use

3554101 100 ml x 6 bottles
3554179 225 ml x 6 bottles
3555790 5 L x 2 bags
3555795 3 L x 4 bags

Dehydrated

3564684 500 g
3564686 5 kg

BPW Standard

Ready to use

12013260 5 L x 2 bags

Dehydrated

12013258 5 kg
12013259 500 g

Fraser 1

Complete medium

3554569 10 ml x 25 tubes

Dehydrated base

3564604 500 g

Supplement

3564615 10 vials

Catalog # Description

Half Fraser Plus

Ready to use

3555794 3 L x 4 bags
3555797 225 ml x 6 bottles

Dehydrated base

3564604 500 g

Supplement

3564616 10 vials

Half Fraser Standard

Ready to use

12018707 5 L x 2 bags

Dehydrated

12018705 5 kg
12018706 500 g

iQ-Check Free DNA Removal Solution

3594970 175 mg

iQ-Check

Listeria monocytogenes II Kit

3578124 96 tests

iQ-Check Purification Reagent

12012383 2.5 g

Listeria Special Broth (LSB)

Ready to use

3555703 225 ml x 6 bottles
3555793 5 L x 2 bags

Dehydrated

3564703 500 g
3564753 5 kg

Listeria Special Broth II (LSB II)

Ready to use

12017463 225 ml x 6 bottles

Dehydrated

12017378 5 kg
12017388 500 g

Catalog # Description

RAPID/*Listeria* spp. Agar

Dehydrated base

3564744 500 g

Supplement 1

3564745 10 vials

Supplement 2

3564746 10 vials

RAPID/*L.mono* Agar

Ready to use

3555294 Kit: 190 ml agar + 2 suppl.
3563694 90 mm x 20 dishes
3563964 90 mm x 120 dishes

Dehydrated base

3564293 500 g

Supplement 1

3564294 10 vials

Supplement 2

3564746 10 vials

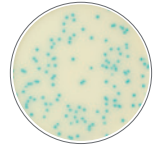
Rhamnose Test

3553669 28 tests

Listeria spp.



Listeria spp.



RAPID Listeria spp.

Alternative Methods

RAPID'L.mono

Detection of *Listeria* spp.



Sample



Half Fraser



30°C
24 ± 2 hr



Isolation on **RAPID'L.mono**



37°C
(24 hr)
48 hr

Reading and confirmation tests



Standard Tests
or
iQ-Check *Listeria* spp.
or
Spot on **Palcam**
or
Spot on **AL**

RAPID'Listeria spp.

Detection of *Listeria* spp.



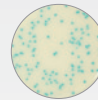
Sample



Half Fraser or UVM



30°C
18–28 hr



Isolation on **RAPID'Listeria spp.**



37°C
24 ± 2 hr

Reading and confirmation tests



Standard Tests
or
Spot on **RAPID'L.mono**
or
Spot on **Palcam**
or
iQ-Check *Listeria* spp.

Listeria spp.

Alternative Methods

AL (Agar *Listeria* according to Ottaviani and Agosti) Detection of *Listeria* spp.



Sample



Half Fraser



30°C
24 ± 2 hr



Isolation on **AL**



37°C
24 ± 2 hr

Reading and confirmation tests



Standard Tests
or
iQ-Check *Listeria* spp.
or
Streak on **Palcam**

iQ-Check *Listeria* spp. Real-Time PCR Kit Detection of *Listeria* spp.



Sample



LSB or LSB II



30°C
18–26 hr (LSB)
or 37°C
21 ± 3 hr (LSB II)

Bacterial lysis and DNA extraction
standard or easy protocol



Real-time PCR amplification and detection with
iQ-Check *Listeria* spp.



Automatic results analysis and interpretation



Confirmation of positive results with
RAPID'*Listeria* spp. or **RAPID'*L. mono***

Listeria spp.

Ordering Information

Catalog # Description

AL (Agar *Listeria* according to Ottaviani and Agosti)

Ready to use

3563695 90 mm x 20 dishes
3563965 90 mm x 120 dishes

Dehydrated base

3564043 500 g

Base in vials (to be supplemented)

3555200 237.5 ml x 6 bottles

Supplement 1

3564041 10 vials

Supplement 2

3564042 10 vials

Half Fraser Plus

Ready to use

3555794 3 L x 4 bags
3555797 225 ml x 6 bottles

Dehydrated base

3564604 500 g

Supplement

3564616 10 vials

Half Fraser Standard

Ready to use

12018707 5 L x 2 bags

Dehydrated

12018705 5 kg
12018706 500 g

iQ-Check Free DNA Removal Solution

3594970 175 mg

iQ-Check *Listeria* spp. Kit

3578113 96 tests

iQ-Check Purification Reagent

12012383 2.5 g

Catalog # Description

Listeria Special Broth (LSB)

Ready to use

3555703 225 ml x 6 bottles
3555793 5 L x 2 bags

Dehydrated

3564703 500 g
3564753 5 kg

Listeria Special Broth II (LSB II)

Ready to use

12017463 225 ml x 6 bottles

Dehydrated

12017388 500 g
12017378 5 kg

Palcam Agar

Dehydrated base

3564754 500 g

Supplement

3564752 10 vials

RAPID *Listeria* spp. Agar

Dehydrated base

3564744 500 g

Supplement 1

3564745 10 vials

Supplement 2

3564746 10 vials

RAPID *L.mono* Agar

Ready to use

3555294 Kit: 190 ml agar + 2 suppl.
3563694 90 mm x 20 dishes
3563964 90 mm x 120 dishes

Dehydrated base

3564293 500 g

Supplement 1

3564294 10 vials

Supplement 2

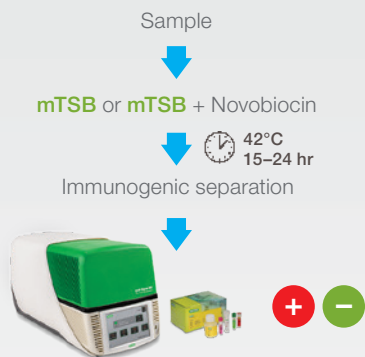
3564746 10 vials

Shiga Toxin–Producing *Escherichia coli* (including O157:H7)

Standard Method

USDA FSIS MLG Protocol

Detection, isolation, and identification of the top seven Shiga toxin–producing *E. coli* (STEC) from meat products, carcass, and environmental sponges



Real-time PCR amplification and detection with
iQ-Check STEC VirX
(Automatic results analysis and interpretation)

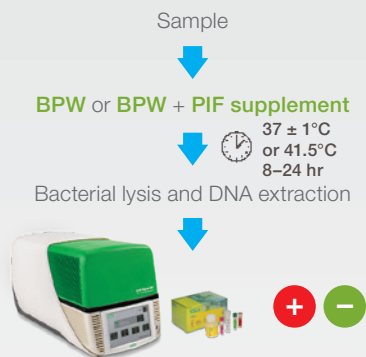
Real-time PCR amplification and detection with
iQ-Check STEC SerO II
(Automatic results analysis and interpretation)

Reading and confirmation tests

Alternative Methods

iQ-Check STEC VirX and SerO II Real-Time PCR Kits

Detection of *stx/eah* virulence genes and identification of Shiga toxin–producing *E. coli* (STEC) major O-groups: O157:H7, O111, O26, O103, O145, O121, and O45



Real-time PCR amplification and detection with
iQ-Check STEC VirX
(Automatic results analysis and interpretation)

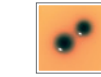
Real-time PCR amplification and detection with
iQ-Check STEC SerO II
(Automatic results analysis and interpretation)

Reading and confirmation tests



Alternative confirmation with
Droplet Digital PCR
dd-Check STEC

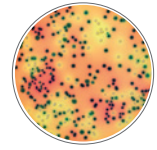
Shiga Toxin–Producing *Escherichia coli* (including O157:H7)



E. coli O157:H7



Other *E. coli*



RAPID[®] *E. coli* O157:H7

Alternative Methods

iQ-Check STEC VirX Kit

Detection of *stx* virulence genes of Shiga toxin–producing *E. coli* (STEC) major O-groups

MICROVAL[®] | nēn



* Incubate at 41.5°C for 10–18 hr for raw meat, 16–24 hr for raw milk products, and 18–26 hr for flour and raw dough products.

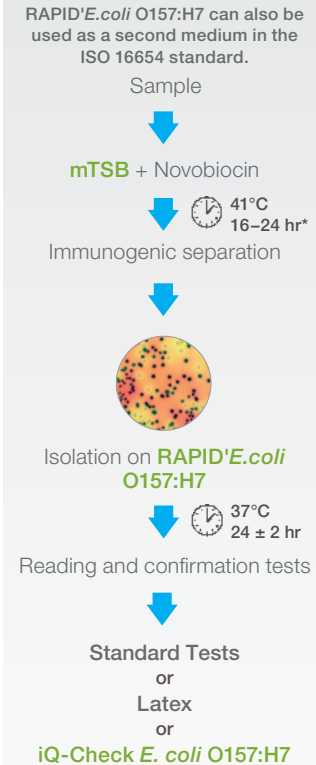
dd-Check STEC Solution

Detection of colocalized genetic markers of Shiga toxin–producing *E. coli* (STEC)



RAPID[®] *E. coli* O157:H7

Detection of *Escherichia coli* O157:H7



* For AOAC, incubate at 35 ± 2°C for 16 hr for ground beef and 37 ± 0.5°C for 24 hr for fresh spinach.

Shiga Toxin–Producing *Escherichia coli* (including O157:H7)

Alternative Method

iQ-Check *E. coli* O157:H7 Real-Time PCR Kit Detection of *Escherichia coli* O157:H7



Real-time PCR amplification and detection with
iQ-Check *E. coli* O157:H7



Results analysis and interpretation

Confirm positive results with **RAPID'E.coli O157:H7**

Ordering Information

Catalog # Description

Buffered Peptone Water (BPW)

BPW Plus

Ready to use

3554101	100 ml x 6 bottles
3554179	225 ml x 6 bottles
3555790	5 L x 2 bags
3555795	3 L x 4 bags

Dehydrated

3564684	500 g
3564686	5 kg

BPW Standard

Ready to use

12013260	5 L x 2 bags
----------	--------------

Dehydrated

12013258	5 kg
12013259	500 g

dd-Check STEC Solution (includes kit and oil)

17004826	96 tests
----------	----------

iQ-Check *E. coli* O157:H7 Kit

3578114	96 tests
---------	----------

iQ-Check Free DNA Removal Solution

3594970	175 mg
---------	--------

iQ-Check Purification Reagent

12012383	2.5 g
----------	-------

iQ-Check STEC SerO II

12013174	32 tests
----------	----------

iQ-Check STEC VirX

3578139	96 tests
---------	----------

Modified Tryptic Soy Broth (mTSB)

Ready to use (containing novobiocin)

3555426	225 ml x 6 bottles
---------	--------------------

Dehydrated base

3564426	500 g
---------	-------

RAPID'E.coli O157:H7 Agar

Dehydrated base

3564748	100 g
---------	-------

Selective STEC Supplement

3564005	1 g
---------	-----

Campylobacter spp.

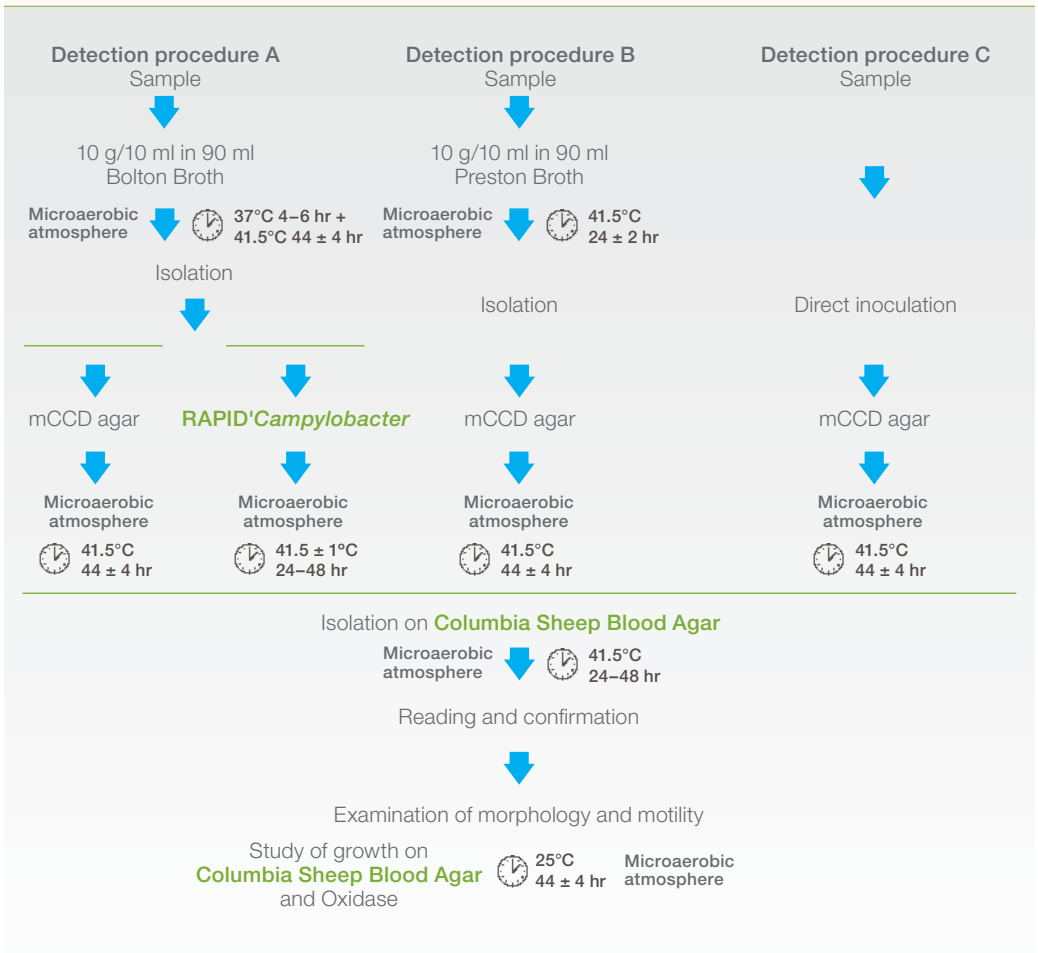
ISO Standard

ISO 10272-1:2017

Horizontal method for detection and enumeration of *Campylobacter* spp.

Part 1: Detection method

Microbiology of the food chain



Campylobacter spp.

ISO Standard

ISO 10272-2:2017

Horizontal method for detection and enumeration of *Campylobacter* spp.

Part 2: Enumeration method

Microbiology of the food chain

Initial suspension
(decimal dilutions)



mCCD agar

Microaerobic atmosphere 41.5°C
44 ± 4 hr

Enumeration and confirmation



Columbia Sheep Blood Agar

41.5°C
24–48 hr

Examination of morphology and motility

Growth at 25°C, in a microaerobic atmosphere

Oxidase

USDA FSIS MLG Protocol

Poultry sample (raw/rinsed/sponge)



BPW



Plate 1 ml over 4 Campy-Cefex plates
and spread evenly



Incubate

Microaerobic atmosphere 42 ± 1°C
48 ± 2 hr

Absence of growth or growth of atypical
colonies can be reported as negative



Pick up to 3 well-isolated colonies
for *Campylobacter*



Latex Agglutination Test

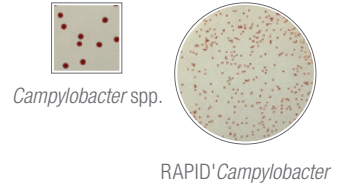


Negative
(Can be reported
as negative)



Positive
(Confirm isolates
and report as positive)

Campylobacter spp.



Alternative Methods

RAPID'Campylobacter


Detection of *Campylobacter* spp.

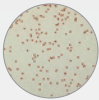
Sample enrichment



Preston broth



 $41.5 \pm 1^\circ\text{C}$
 24 ± 2 hr



Isolation on **RAPID'Campylobacter**

Microaerobic atmosphere



 $41.5 \pm 1^\circ\text{C}$
 $24-48$ hr

Reading and confirmation tests



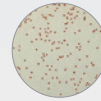
Standard Tests
or
Campylobacter Confirm Latex
or
iQ-Check Campylobacter

RAPID'Campylobacter

Enumeration of *Campylobacter* spp.




Suspension/dilution



Isolation on **RAPID'Campylobacter**

Microaerobic atmosphere



 $41.5 \pm 1^\circ\text{C}$
 $(24$ hr)
 48 ± 4 hr

Reading and confirmation tests



Standard Tests
or
Campylobacter Confirm Latex
or
iQ-Check Campylobacter

Campylobacter spp.

Alternative Method

iQ-Check *Campylobacter* Real-Time PCR Kit

Detection of *C. jejuni*, *C. coli*, and *C. lari*



Food sample
suppl. Bolton

37 ± 1°C 4–6 hr +
41.5 ± 1°C 20–24 hr

Carcass rinse or sponge
2x Blood-Free Bolton
Enrichment Broth

42°C
24 hr

Bacterial lysis and DNA extraction



Real-time PCR amplification and detection
with iQ-Check *Campylobacter*



Results analysis and interpretation

Ordering Information

Catalog # Description

Buffered Peptone Water (BPW)

BPW Plus

Ready to use

3554101	100 ml x 6 bottles
3554179	225 ml x 6 bottles
3555790	5 L x 2 bags
3555795	3 L x 4 bags

Dehydrated

3564684	500 g
3564686	5 kg

BPW Standard

Ready to use

12013260	5 L x 2 bags
----------	--------------

Dehydrated

12013258	5 kg
12013259	500 g

Confirmation

3554154	Sterile Distilled Water, 9 ml x 25 tubes
3554164	Physiologic Sterile Water (0.85%), 9 ml x 25 tubes
3563784	Columbia Sheep Blood Agar, 90 mm x 20 dishes
3564297	<i>Campylobacter</i> Confirm Latex Kit, 50 tests

iQ-Check *Campylobacter* Kit

3578135	96 tests
---------	----------

iQ-Check Free DNA Removal Solution

3594970	175 mg
---------	--------

iQ-Check Purification Reagent

12012383	2.5 g
----------	-------

RAPID*Campylobacter* Agar

Ready to use

12012036	90 mm x 20 dishes
----------	-------------------

Dehydrated base

3564295	500 g
---------	-------

Supplement

3564296	10 vials
---------	----------

Tryptone Salt Diluent

Ready to use

3555732	225 ml x 6 bottles
3555754	9 ml x 25 tubes
3555756	90 ml x 6 bottles
3555796	3 L x 4 bags

Dehydrated

3564544	500 g
---------	-------

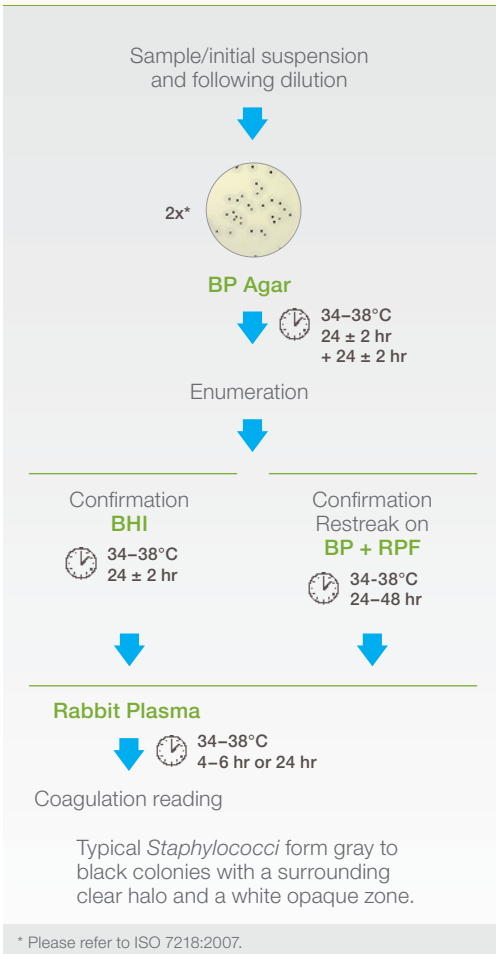
Staphylococcus aureus

ISO Standards

ISO 6888-1:2021

Horizontal method for the enumeration of coagulase-positive *Staphylococci* (*S. aureus* and other species)

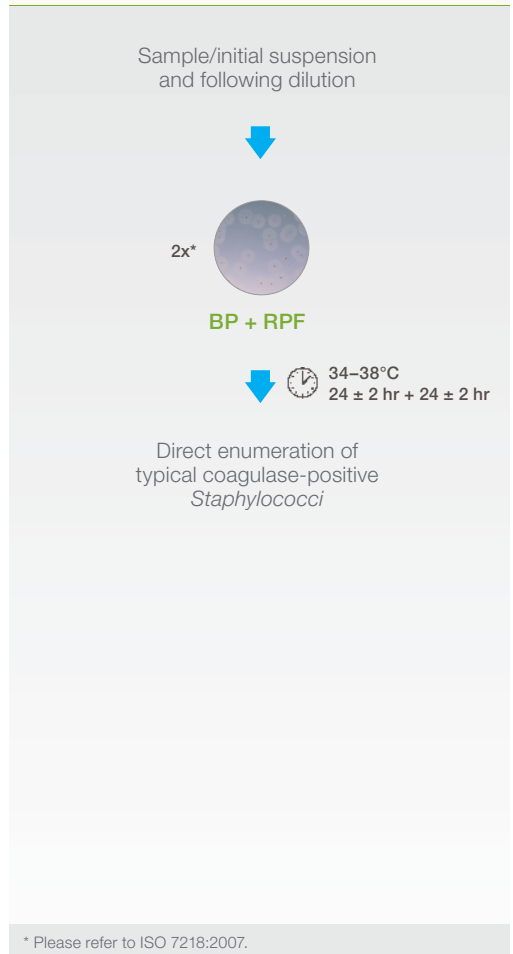
Method using Baird-Parker agar medium



ISO 6888-2:2021

Horizontal method for the enumeration of coagulase-positive *Staphylococci* (*S. aureus* and other species)

Method using rabbit plasma fibrinogen agar medium



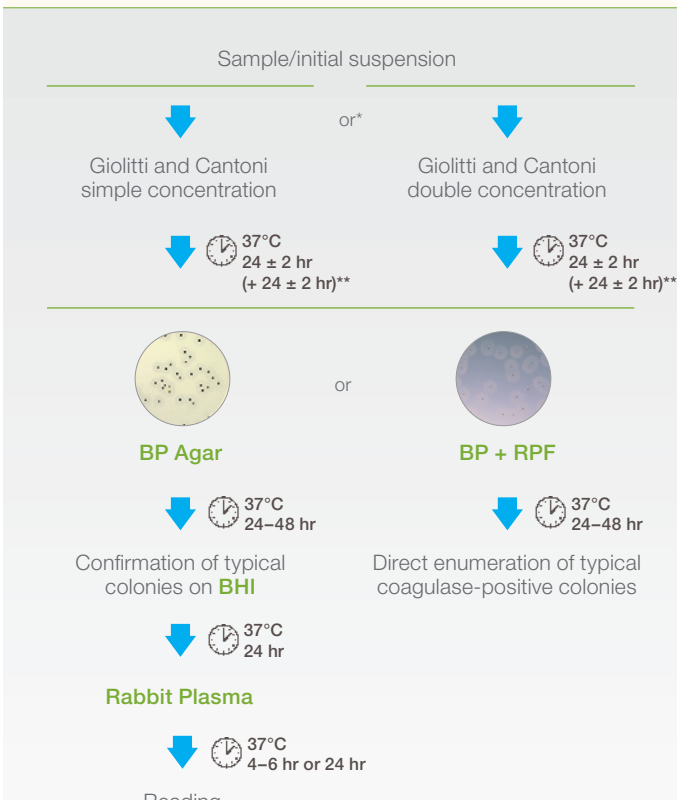
Staphylococcus aureus

ISO Standard

ISO 6888-3:2003

Horizontal method for the enumeration of coagulase-positive *Staphylococci* (*S. aureus* and species)

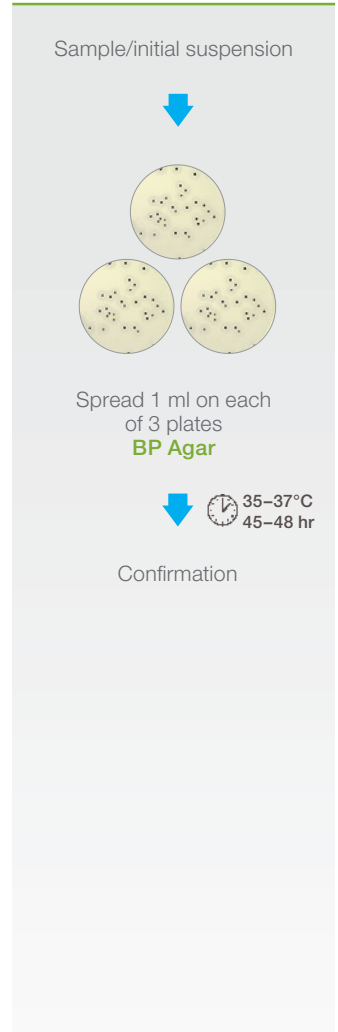
Detection and MPN technique for low numbers



* For MPN enumeration technique, inoculate single and double concentration broth.

** For detection method only, if low or absent colony growth observed after 24 hr.

FDA BAM Protocol



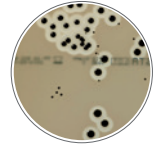
Staphylococcus aureus



Staphylococcus
coagulase-positive



Staphylococcus
coagulase-negative



RAPID'Staph agar

Alternative Method

RAPID'Staph

Enumeration of coagulase-positive *Staphylococci*



Sample/initial suspension



RAPID'Staph



37°C
24 ± 2 hr

Enumeration and confirmation



Pastorex *Staph* Plus Latex
or
Spot on Baird-Parker for RPF

Ordering Information

Catalog # Description

Additives

Egg yolk with potassium tellurite
3554205 25 ml x 1 bottle

Sulfamethazine solution (0.2%)
3562682 2.5 ml x 1 vial

Baird-Parker (BP) Agar Complete medium

3563991 90 mm x 20 dishes

Base

3564814 500 g

Baird-Parker for RPF Agar (BP + RPF) Complete medium

3563996 90 mm x 20 dishes
3578618 90 ml x 6 bottles
+ 6 vials of suppl.

Dehydrated base

3564814 500 g

RPF Supplement

3564618 10 vials

Brain Heart Infusion (BHI) Broth Ready to use

3553664 10 ml x 25 tubes

Pastorex *Staph* Plus Latex

3556353 5 x 50 tests
3556356 50 tests

Rabbit Plasma Freeze-dried

3556352 Pack for 20 reactions

RAPID'Staph Agar

Ready to use

3563960 90 mm x 20 dishes

Dehydrated base

3564704 500 g

Vibrio spp.

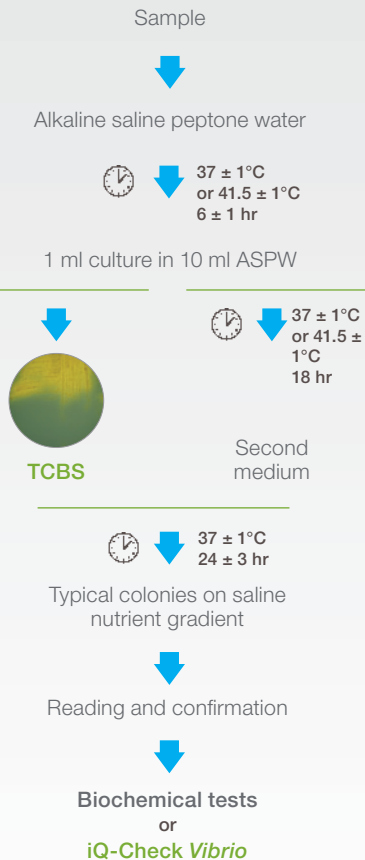
ISO Standard

ISO 21872-1:2017

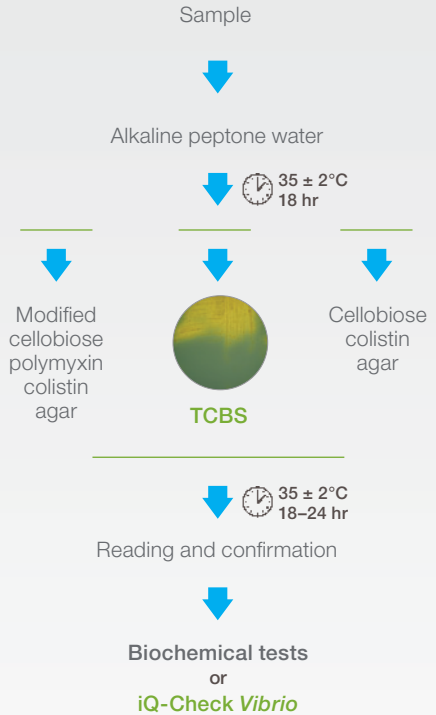
Horizontal method for the determination of *Vibrio* spp.

Microbiology of the food chain

Part 1: Detection of potentially enteropathogenic *V. parahaemolyticus*, *V. cholerae*, and *V. vulnificus*



FDA BAM Protocol

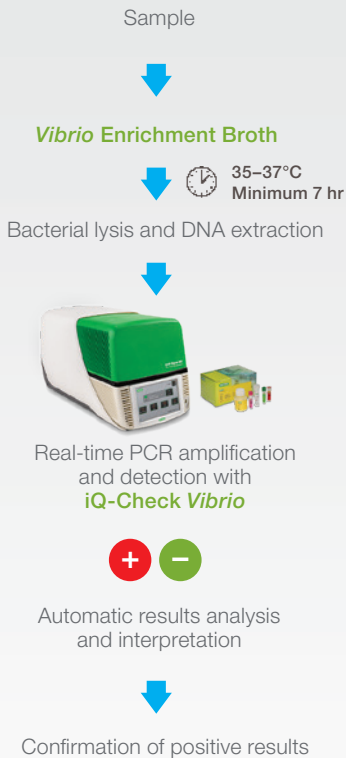


Vibrio spp.

Alternative Method

iQ-Check *Vibrio* Real-Time PCR Kit

Detection of *V. cholerae*, *V. parahaemolyticus*, *V. vulnificus*



Ordering Information

Catalog # Description

iQ-Check Free DNA Removal Solution

3594970 175 mg

iQ-Check *Vibrio*

12006574 96 tests

Thiosulfate Citrate Bile Saccharose (TCBS)

3555933 100 ml x 6 bottles

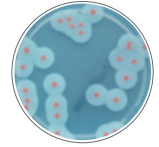
***Vibrio* Enrichment Broth Dehydrated**

12007405 500 g

Bacillus cereus



Bacillus cereus



RAPID'B.cereus

ISO Standard

ISO 7932:2005

General guidance for the enumeration of *B. cereus*

Colony-count technique at 30°C

Sample/initial suspension and following dilution



2x*

Mossel (MYP)



 30°C
18–24 hr
(+ 24 hr)

Confirmation test on
5 well-isolated colonies



Columbia Sheep Blood Agar



 30°C
24 ± 2 hr

Reading and interpretation

Alternative Method

RAPID'B.cereus

Enumeration of *Bacillus cereus* group




Initial suspension
(decimal dilutions)



RAPID'B.cereus



 30 ± 1°C
24 ± 3 hr

Direct enumeration

Ordering Information

Catalog # Description

Columbia Sheep Blood Agar

Ready to use

3563784 90 mm x 20 dishes

Mossel Agar

(Mannitol Egg Yolk Polymixin)

Dehydrated base

3569604 500 g

RAPID'B.cereus

Ready to use

12007304 90 mm x 20 dishes

Dehydrated base

12007305 500 g

Supplement 1

12007306 10 vials

Supplement 2

12007307 10 vials

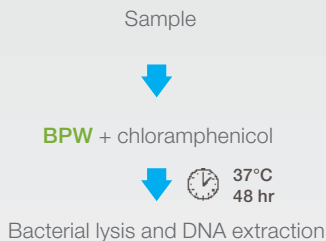
* Please refer to ISO 7218:2007.

Aspergillus spp.

Alternative Method

iQ-Check *Aspergillus* Real-Time PCR Kit

Detection of *A. flavus*, *A. fumigatus*, *A. niger*, and *A. terreus* in cannabis and cannabis-infused products



Real-time PCR amplification and detection with
iQ-Check *Aspergillus*



Automatic results analysis and interpretation

↓

Confirm PCR results following
AOAC SMPR 2019.001
Section 7(2)

↓

Confirmation of species with
iQ-Design Assay *Aspergillus niger*
iQ-Design Assay *Aspergillus flavus*
iQ-Design Assay *Aspergillus fumigatus*
iQ-Design Assay *Aspergillus terreus*

Ordering Information

Catalog # Description

Buffered Peptone Water (BPW)

BPW Plus

Ready to use

3554101	100 ml x 6 bottles
3554179	225 ml x 6 bottles
3555790	5 L x 2 bags
3555795	3 L x 4 bags

Dehydrated

3564684	500 g
3564686	5 kg

BPW Standard

Ready to use

12013260	5 L x 2 bags
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Dehydrated

12013258	5 kg
12013259	500 g

iQ-Check *Aspergillus* Kit

12010806	96 tests
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iQ-Check Free DNA Removal

3594970	175 mg
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iQ-Check Purification Reagent

12012383	2.5 g
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iQ-Design Assay Kits

12015260	iQ-Design Assay <i>Aspergillus fumigatus</i> , 100 reactions
12015330	iQ-Design Assay <i>Aspergillus</i> Identification Positive Control, 100 reactions
12015336	iQ-Design Assay <i>Aspergillus niger</i> , 100 reactions
12015337	iQ-Design Assay <i>Aspergillus flavus</i> , 100 reactions
12018492	iQ-Design Assay <i>Aspergillus terreus</i> , 100 reactions
12018493	iQ-Design Assay <i>Aspergillus</i> + <i>terreus</i> Positive Control, 100 reactions
17006992	iQ-Design Assay <i>Aspergillus</i> Identification Solution, 100 reactions
17007081	iQ Multiplex Powermix, 100 reactions

Sulfite-Reducing Bacteria

ISO Standard

ISO 15213:2003

Horizontal method for the enumeration of sulfite-reducing bacteria growing under anaerobic conditions

Microbiology of food and animal feeding stuffs

Ordering Information


Catalog # Description

Tryptose Sulfite Cycloserine (TSC) Agar without D-Cycloserine Agar – Base Medium

Ready to use (to be supplemented)
3554419 100 ml x 6 bottles

Dehydrated base
3569644 500 g

Food sample/initial suspension

↓  Heat treatment
20 min at 75°C

Dilution

↓

2x*



TSC

If suspicion of
thermophilous
bacteria
50°C 24–48 hr

↓  Anaerobic condition
37°C 24–48 hr

Reading

↓

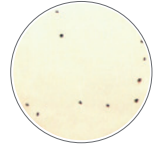
Confirmation

* Please refer to ISO 7218:2007.

Clostridium perfringens



Clostridium perfringens



TSC

ISO Standard

ISO 7937:2005

Horizontal method for the enumeration of *Clostridium perfringens*
Colony-count technique

Microbiology of food and animal feeding stuffs

Ordering Information

Catalog # Description

Lactose Sulfite Broth

Base
3564914 100 g

Tryptose Sulfite Cycloserine (TSC) Agar without D-Cycloserine Agar—Base Medium

Ready to use (to be supplemented)
3554419 100 ml x 6 bottles

Dehydrated base

3569644 500 g

Food sample/initial suspension



2x*

TSC

(add D-cycloserine)

Anaerobic condition   37°C
20 ± 2 hr

Enumeration of typical black colonies

Confirmation of 5 isolated colonies with
Thioglycolate + Resazurin Broth

  37°C
21 ± 3 hr

Lactose Sulfite Broth

C. perfringens
black precipitate/gas +

  37°C
21 ± 3 hr

Mobility Nitrate

C. perfringens
red coloration/gas +

  37°C
21 ± 3 hr

Lactose Gelatin

C. perfringens
yellow/gas +

  46°C
24 hr

  37°C
21 ± 3 hr

  37°C
21 ± 3 hr

* Please refer to ISO 7218:2007.

Shigella

ISO Standard

ISO 21567:2005

Horizontal method for the detection of *Shigella* spp.

Food sample/initial suspension



Shigella Broth + Novobiocin
pH 7 ± 0.2



41.5°C
16–20 hr

Plating



MacConkey



37°C
20–24 hr
(+ 48 hr)*



XLD



37°C
20–24 hr
(+ 48 hr)*



Hektoen



37°C
20–24 hr
(+ 48 hr)*

Spot on typical colonies on **Nutrient (2.1%)**



37°C
20–24 hr

Biochemical and serological confirmation

Ordering Information

Catalog # Description

MacConkey + Crystal Violet Agar

Ready to use

3563617 90 mm x 20 dishes

Dehydrated

3569084 500 g

Nutrient (2.1%) Agar

Dehydrated

3564485 500 g

Xylose Lysine Desoxycholate (XLD) Agar

Ready to use

3541751 90 mm x 20 dishes

Dehydrated

3569124 500 g

Visit bio-rad.com/antisera

for a complete list of our

Shigella antisera.

* If low or absent colony growth observed after 24 hr.

Meat Speciation

ID-Check

Detection of animal species

Sample



Invisorb Spin DNA Extraction Kit



Real-time PCR amplification
and detection with
**ID-Check Animal
Speciation Kit**



Automatic results analysis

Ordering Information

Catalog # Description

Invisorb Spin Tissue Extraction Kit

12019412 100 preps

ID-Check Swine Speciation Kit

12019385 100 reactions

ID-Check Sheep Speciation Kit

12019393 100 reactions

ID-Check Bovine Speciation Kit

12019403 100 reactions

ID-Check Goat Speciation Kit

12019404 100 reactions

ID-Check Duck Speciation Kit

12019411 100 reactions

ID-Check Chicken Speciation Kit

12019421 100 reactions

ID-Check Horse Speciation Kit

12019423 100 reactions

ID-Check Turkey Speciation Kit

12019431 100 reactions

Validations



AOAC



NF VALIDATION*



Health Canada



NordVal

MICROVAL | nfn

MicroVal

iQ-Check Real-Time PCR Methods

<i>Aspergillus</i> spp.	✓			
<i>Campylobacter</i> spp.	✓			
<i>Cronobacter</i> spp.		✓		
<i>Escherichia coli</i> O157:H7	✓	✓		
<i>Listeria monocytogenes</i>	✓	✓	✓	✓
<i>Listeria</i> spp.	✓	✓	✓	
<i>Salmonella</i> spp.	✓	✓	✓	✓
<i>S. Enteritidis</i>	✓			
<i>S. Typhimurium</i>	✓			
STEC 7 major O-groups	✓			
STEC virulence genes	✓			✓
<i>Vibrio</i> spp.	✓			

RAPID[®]Chromogenic Methods

<i>Bacillus cereus</i>		✓		
<i>Campylobacter</i> spp.		✓		
Coliforms	✓	✓	✓	✓
<i>Cronobacter</i> spp.		✓		
<i>Escherichia coli</i>	✓	✓	✓	✓
<i>Escherichia coli</i> O157:H7	✓	✓		
<i>Listeria monocytogenes</i>				
Detection	✓	✓	✓	✓
Enumeration		✓	✓	✓
<i>Listeria</i> spp.	✓	✓	✓	
<i>Salmonella</i> spp.	✓	✓	✓	✓
<i>Staphylococcus aureus</i>				✓

* Alternative analytical methods for agrifood — nf-validation.afnor.org/en.

✓ Approved

Visit bio-rad.com/validations to review our product performance summaries and to view the complete list of validated matrices.

Quality and Certification

Our quality policy, which is the result of our dedicated efforts to food and water environmental and surface testing, is based on a constant commitment to improvement.

Within the scope of the CE labeling process for all of its medical diagnostic activities, a number of Bio-Rad sites received ISO 13485 certification in 2002. Bio-Rad's ISO 9001 version 2000 certification is also maintained for all of its activities.

United States Department of Agriculture (USDA) and Food and Drug Administration (FDA) inspections have confirmed Bio-Rad's quality systems' and products' compliance with U.S. regulatory standards.

Production

From the delivery of raw materials right up to marketing of the finished products, Quality Assurance applies to every product manufactured by Bio-Rad. Each batch of finished products undergoes strict quality control testing and is marketed only if it complies with acceptance criteria.

All documentation relating to the production and quality control of a given batch is archived.

ISO/IEC 17025 Accreditation

ISO/IEC 17025 accreditation allows solution manufacturers and user laboratories to demonstrate that they operate competently and use reliable and valid products for reliable and valid results. The Bio-Rad culture media quality control laboratory in Steenvoorde, France is ISO/IEC 17025 accredited (N° 1-6642 by COFRAC Essais). Scope of accreditation is available at cofrac.fr.

Distribution

Stock is maintained in a temperature-controlled environment with barcode readings of code, batch, expiration date, product status, commercial validity, and country authorization verified at each step in product storage and distribution.

Normally, products are transported at room temperature. Bio-Rad takes shipping-related stress conditions into account when developing reagents. This allows reagents to be carried via standard shipping services. For those rare instances when a product's performance cannot be guaranteed under these conditions, Bio-Rad offers specialized methods of transport.

Traceability

All Bio-Rad products can be traced electronically, making it possible to identify the customer(s) linked with a specific product and/or batch or serial number.

As part of the company's "reagent vigilance," this traceability makes it possible to inform clients when there's a problem with a particular batch or lot number, to indicate any actions to be taken based on the results, and, where applicable, to recall a given product.

Documents and Certificates

User Guides

For more information about our products, please refer to the user guides.

Depending on the products, our technical sheets include:

- Applications of the product
- Corresponding standard references
- Product description
- Presentation or type(s) of packaging offered
- Stock status
- Typical formula
- Necessary product(s) or material(s) that are not supplied
- Detailed protocols
- Special precautions for use
- Quality controls indicating test strains and expected results

All of our user guides are available on our website.

Quality Control Certificates

These certificates have been established for every product and indicate all the control tests carried out on the finished product, the expected specifications, and the results obtained.

These documents can be consulted online and can be downloaded in PDF format by using a product code and batch number.

Safety Data Sheets

These are established by our Department of Regulatory Affairs for every product containing hazardous substances and are recorded in the product reference information.

These safety data sheets are available upon request.

Certificates of Health and Origin

These documents, available during audit, are delivered to us by our suppliers for peptones of animal origin when they are elements in the composition of a product.

Brochures



RAPID[®] Chromogenic Media Brochure
Bulletin 16288



iQ-Check Real-Time PCR Solution Brochure
Bulletin 16439

Visit [bio-rad.com/FoodScience](https://www.bio-rad.com/FoodScience) for more information.

Videos



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[bio-rad.com/FoodScienceVideos](https://www.bio-rad.com/FoodScienceVideos)

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