



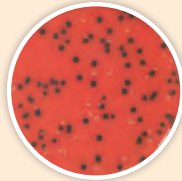
The Difference is Clear

RAPID'Chromogenic Methods for Food

Enumeration in Less Than 24 Hours

RAPID'*L.mono*

The RAPID'*L.mono* chromogenic medium specifically detects the phospholipase of *Listeria monocytogenes* and its inability to metabolise xylose. After 24 hours incubation, *L. monocytogenes* forms characteristic blue colonies without a yellow halo.



RAPID'*L.mono*



L. monocytogenes

Key benefits of RAPID'*L.mono* protocol

- Enumeration of *Listeria monocytogenes* in 24 hours only
- Total inhibition of Bacilli
- No confirmation required if *L. mono* is confirmed at the detection stage

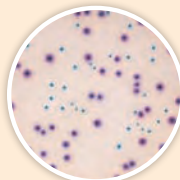
Validations

- Certified NF VALIDATION according to the ISO 16140 standard, as an alternative method to the NF EN ISO 11290-2 reference standard, for the enumeration of *Listeria monocytogenes* under BRD 07/05-09/01



RAPID'*E.coli 2*

RAPID'*E.coli 2* is a selective chromogenic medium used for direct enumeration without confirmation, of coliforms including *Escherichia coli*. The principle of the medium relies on simultaneous detection of 2 enzymatic activities: β -D-Glucuronidase (GLUC) and β -D-Galactosidase (GAL). Coliforms (GAL+/GLUC-) form blue to green colonies, *E. coli* (GAL+/GLUC+) forms violet to pink colonies.



RAPID'*E.coli 2*



E. coli



Other coliforms

Key benefits of RAPID'*E.coli 2* protocol

- Simultaneous enumeration of *E. coli* and coliforms at 37°C, without further confirmation
- Only 1 plate required
- Complete results in 18-24 hours
- Gas production not necessary for differentiation of colonies

Validations

- Certified NF VALIDATION according to the ISO 16140 standard, as a valid alternative method to the NF ISO 16649-2 reference standard for the enumeration of β -Glucuronidase-positive *Escherichia coli* at 44°C and 37°C, under BRD 07/1-07/93 and BRD 07/7-12/04 respectively
- Certified NF VALIDATION according to the ISO 16140 standard as a valid alternative method to the NF ISO 4832 standard for the enumeration of coliforms at 37°C, under BRD 07/8-12/04
- AOAC-RI approved under certificate # 050601
- NordVal approved



AL Agar

AL is a selective chromogenic medium, based on the simultaneous detection of two enzyme activities. *L. monocytogenes* produces blue to blue-green colonies with an opaque halo.



AL



Listeria monocytogenes



Other *Listeria* spp.

Key benefits of AL protocol

- Results in 48 hours
- Dilution step in Fraser 1/2 or Buffered Peptone Water
- No resuscitation mandatory with BPW
- Only 1 petri dish needed in depth inoculation protocol
- Easy to read: blue colonies + opaque halo

Validations

- Certified NF VALIDATION according to the ISO 16140 standard, as an alternative method to the NF EN ISO 11290-2 reference standard, for the enumeration of *Listeria monocytogenes* under BRD 07/17-0101/09

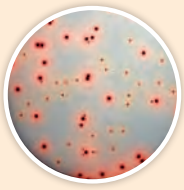


and Environmental Testing



RAPID'Enterobacteriaceae

RAPID'Enterobacteriaceae is a high performance medium for the enumeration of *Enterobacteriaceae* in 24 hours, without confirmation step. The association of colors indicators allows a high level of contrast and ensures an optimal readability of *Enterobacteriaceae* colonies. The use of an automatic colony counter increases the ease of reading and allows a total traceability in the laboratory.



RAPID'Enterobacteriaceae



Enterobacteriaceae



Non
Enterobacteriaceae

Key benefits of RAPID'Enterobacteriaceae protocol

- High selectivity
- Complete results in 24 hours without confirmation
- Easy to read
- Suitable with an automatic colony counter

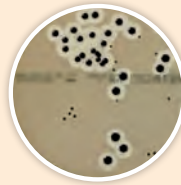
Validations

- NF VALIDATION Pending

RAPID'Staph

The RAPID'Staph medium is used for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species). The principle relies on the capacity of *Staphylococcus aureus* to reduce tellurite (black colonies), to provoke proteolysis of egg yolk (clear halo around colonies).

Positive results can be confirmed with a Pastorex™ Staph Plus latex test or on a pre-poured Baird-Parker + RPF agar plate.



RAPID'Staph



Staphylococcus
coagulase positive



Staphylococcus
coagulase negative

Key benefits of RAPID'Staph protocol

- Complete results in 24 hours
- Selective

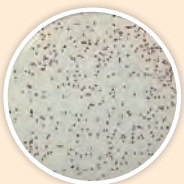
Validations

- Certified NF VALIDATION according to the ISO 16140 standard as a valid alternative method to the NF ISO 6888-1 reference standard, for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species) for all food products destined for human consumption, under BRD 07/09-02/05
- AOAC-RI approved under certificate # 080602



RAPID'Campylobacter

RAPID'Campylobacter is a selective chromogenic medium used for the enumeration of thermophilic *Campylobacter* spp. *Campylobacter* produces black-red colonies.



RAPID'Campylobacter



Campylobacter spp.

Key benefits of RAPID'Campylobacter protocol

- Enumeration of *Campylobacter* in 24 hours
- High selectivity
- Easy to read

Validations

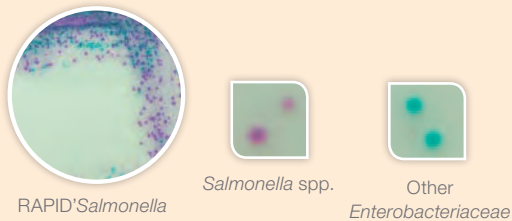
- NF VALIDATION Pending

RAPID'Chromogenic Methods for Food a

Pathogen Detection in 24 Hours After Enrichment

RAPID'Salmonella

The principle of RAPID'Salmonella chromogenic medium relies on the demonstration of two enzymatic activities. *Salmonella* spp. takes the form of readily identified typical magenta colonies (detection of C8 esterase). Counter selection based on β -D-Glucosidase is used to reveal other bacteria with a different color. As expected in the regulations, RAPID'Salmonella permits detection of motile and non-motile *Salmonella*, as well as lactose-positive *Salmonella*, *Salmonella* Typhi and *Salmonella* Paratyphi. RAPID'Salmonella can be used as a second medium in the ISO 6579 or in an alternative and validated protocol.



Key benefits of RAPID'Salmonella protocol

- Complete results as early as 42 hours
- Easy protocol: 1 broth, 1 solid agar plate
- Easy confirmation: *Salmonella* Latex in less than 1 minute
- Very low false positive rate (<1% all matrices during ISO 16140 accuracy tests)

Validations

- Certified NF VALIDATION according to the ISO 16140 standard, as an alternative method to the NF EN ISO 6579 reference standard for the detection of *Salmonella* spp. in all food products for human and animal consumption and in environmental samples (short protocol only and primary production stage samples excluded) under BRD 07/11-12/05
- AOAC-RI approved under certificate # 050701
- NordVal approved



RAPID'Listeria spp.

Identification of *Listeria* spp. using RAPID'Listeria spp. chromogenic medium is based on the detection of β -D-Glucosidase activity by a chromogenic substrate. *Listeria* colonies are blue to bluish-green. The medium is made selective by the combined action of lithium chloride and an antibiotic mixture inhibiting Bacilli and all interfering flora.



Key benefits of RAPID'Listeria spp. protocol

- Simple and economical: 1 broth, 1 plate
- Fast: 24 hours of incubation after 24 hours of enrichment
- Detection of all *Listeria* species
- Easy confirmation by spot on Palcam or RAPID'L.mono
- Very selective

Validations

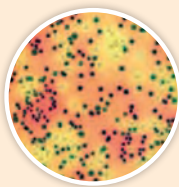
- Certified NF VALIDATION according to the ISO 16140 standard, as an alternative method to the NF EN ISO 11290-1 reference standard, for the detection of *Listeria* spp. in all human food products and environmental samples, under BRD 07/12-12/06
- AOAC-RI approved under certificate # 080701



and Environmental Testing

RAPID'*E.coli* O157:H7

RAPID'*E.coli* O157:H7 is a selective chromogenic medium combining both chromogenic substrates and biochemical indicators. This combination allows direct presumptive identification of *Escherichia coli* O157:H7, including atypical strains, among interfering flora on the basis of the specific enzyme and metabolic profiles observed. Medium selectivity is increased by the addition of selection agents such as novobiocin and potassium tellurite. RAPID'*E.coli* O157:H7 can be used as a second medium in the ISO 16654 or in an alternative and validated protocol.



RAPID'*E.coli* O157:H7



E. coli O157:H7



Other *E. coli*



Other bacteria

Key benefits of RAPID'*E.coli* O157:H7 protocol

- Specific to *E. coli* O157 serotype H7
- Only 1 plate required
- Complete results in 48 hours

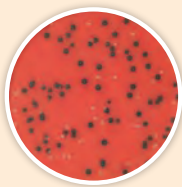
Validations

- Certified NF VALIDATION according to the ISO 16140 standard, as an alternative method to the NF EN ISO 16654 reference standard, for the detection of *Escherichia coli* O157:H7 for all human food products and environmental samples under BRD 07/14 - 09/07
- AOAC-RI approved under certificate # 060701



RAPID'*L.mono*

The RAPID'*L.mono* chromogenic medium specifically detects the phospholipase of *Listeria monocytogenes* and its inability to metabolize xylose. After 24 hours incubation, *L. monocytogenes* forms characteristic blue colonies without a yellow halo. Colonies formed by other species of *Listeria* are white, with or without a yellow halo. *Listeria ivanovii* present blue-green colonies with a yellow halo (xylose positive character). The selective solution in the medium permits inhibition of most interfering flora. RAPID'*L.mono* can be used as a second medium in the ISO 11290-1 or in an alternative and validated protocol.



RAPID'*L.mono*



L. mono



L. ivanovii



L. innocua



L. welshimeri

Key benefits of RAPID'*L.mono* protocol

- Simultaneous response for *Listeria monocytogenes* and *Listeria* spp., on the same plate
- Detection of *Listeria monocytogenes* in 24 hours, after 24 hours of enrichment
- Easy-to-read chromogenic reaction
- High sensitivity and specificity
- Easy confirmations: in 6 hours using Rhamnose test, or by spots on AL Agar

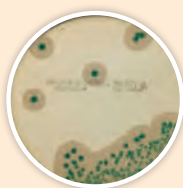
Validations

- Certified NF VALIDATION according to the ISO 16140 standard, as an alternative method to the NF EN ISO 11290-1 reference standard, for the detection of *Listeria monocytogenes* and other *Listeria* species under BRD 07/04-09/98
- AOAC-RI approved under certificate # 030406
- Recommended in FDA Bacteriological Analytical Manual
- NordVal approved



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

AL is a selective chromogenic medium and its principle is based on the simultaneous detection of two enzyme activities: β -Glucosidase and Phosphatidylinositol-specific Phospholipase C (PI-PLC). β -D-Glucosidase activity, common to *Listeria* genus, is detected using a chromogenic substrate (X-glucoside). Its hydrolysis induces the formation of a blue to blue-green color in all *Listeria* colonies. PI-PLC is an enzyme only detected in pathogenic *Listeria* species: *L. monocytogenes* and *L. ivanovii*. AL contains phosphatidylinositol which, when it breaks down, produces an opaque halo around colonies of bacteria of these 2 species: 24 hours for *L. monocytogenes* and 48 hours for *L. ivanovii*. AL is also suitable for ISO 11290-1/A1 and 11290-2/A1 standard methods.



AL



Listeria monocytogenes



Other *Listeria* spp.

Key benefits of AL protocol

- Simultaneous response for *Listeria monocytogenes* and *Listeria* spp., on the same plate
- Detection of *Listeria monocytogenes* in 24 hours, after 24 hours of enrichment
- Easy-to-read chromogenic reaction
- Easy confirmations: test by spots on RAPID'*L.mono*

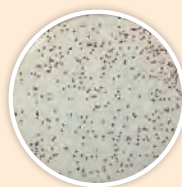
Validations

- Certified NF VALIDATION according to the ISO 16140 standard, as an alternative method to the NF EN ISO 11290-1 reference standard, for the detection of *Listeria monocytogenes* and other *Listeria* species under BRD 07/16-01/09



RAPID'*Campylobacter*

RAPID'*Campylobacter* is a selective chromogenic medium used for the detection of thermophilic *Campylobacter* spp. in food and environmental samples. The use of a selected nutritive mixture associated with reducing agent allows the growth of *Campylobacter* spp. in an optimal time. Other bacterial species, as well as yeast and molds, are inhibited by the selective agents. *Campylobacter* produces brick-red colonies on the RAPID'*Campylobacter*.



RAPID'*Campylobacter*



Campylobacter spp.

Key benefits of RAPID'*Campylobacter* protocol

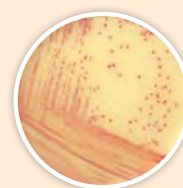
- Detection of *Campylobacter* in 24 hours after enrichment step
- High selectivity
- Easy to read
- Easy and fast confirmation

Validations

- NF VALIDATION Pending

MRSASelect™

MRSASelect is a selective chromogenic medium for the isolation and direct identification of Methicillin-resistant *Staphylococcus aureus*. The selectivity of this medium is based on the presence of an optimized salt concentration and an antibiotic-antifungal mixture that inhibits the majority of microbes, with the exception of Methicillin-resistant *staphylococci*. Identification is based on the demonstration of a specific enzymatic activity of *Staphylococcus aureus*: cleavage of a chromogenic substrate, leading to a strong pink coloration of the *Staphylococcus aureus* colonies.



MRSASelect™



Staphylococcus aureus
Methicillin-resistant



RAPID'Sakazakii

RAPID'Sakazakii is a selective chromogenic medium used for the detection of *Cronobacter* spp. (formerly *Enterobacter sakazakii*). The principle of the medium is based on the demonstration of an enzymatic activity characteristic of *Cronobacter* spp. Under its action, the chromogenic substrate 5-bromo-4-chloro-3-indolyl β -D-Glucopyranoside is hydrolyzed causing blue to blue green color for *Cronobacter* spp. colonies. RAPID'Sakazakii chromogenic medium is formulated to be used in ISO 22964, FDA and USDA standard. To test dehydrated milk powders (very low interfering flora contamination) a short protocol can be used to detect *Cronobacter sakazakii* in 24 hours after 24 hours enrichment in Buffered Peptone Water.



RAPID'Sakazakii



Cronobacter spp.



Other
Enterobacteriaceae

Key benefits of RAPID'Sakazakii protocol

- Economical: 1 broth, 1 plate
- Fast protocol: negative results in less than 42 hours
- Flexibility

Validations

- Certified NF VALIDATION according to the ISO 16140 standard, as an alternative method to the ISO/TS 22964, reference standard, for the detection of *Cronobacter* spp. in infant formula.



Key Benefits of RAPID'Chromogenic Methods:

• Shorter time to results

Decreased time to results over standards and classical methods

• Easy to use

Simple: 1 enrichment broth and 1 plate per sample, easy confirmation
Very easy to read color-change reactions

• Economical solutions

Labor-saving protocols and less media to use

• Consistent and reliable results

Certified NF VALIDATION according to the ISO 16140 standard
AOAC-RI and NordVal approved
High sensitivity and specificity

• Expertise combined with quality

Manufactured in our own ISO 9001:2000 and G-Med Certified plant
Bio-Rad expertise in culture media, food and environmental testing



Ordering Information

Catalog # Description

Fraser 1/2/Broth

Base

356-4604 500 g

Supplement

356-4616 10 vials

Complete Medium

355-5797 225 ml x 6 bottles

355-5794 3 l x 4 bags

355-5792 5 l x 2 bags

Buffered Peptone Water

Dehydrated

356-4684 500 g

Ready to use

355-4179 225 ml x 6 bottles

355-5795 3 l x 4 bags

355-5790 5 l x 2 bags

RAPID'L.mono/Agar

Ready to use

356-3964 90 mm x 120 dishes

356-3694 90 mm x 20 dishes

355-5294 190 ml + suppl.

Dehydrated

356-4293 500 g

Supplement 1

356-4294 1 box, 10 vials (1 vial qsp 500 ml)

Supplement 2

356-4746 1 box, 10 vials (1 vial qsp 500 ml)

Confirmation

356-3965 AL Agar, 90 mm x 120 dishes

356-3695 AL Agar, 90 mm x 20 dishes

355-3669 Rhamnose Test, 1 ml x 28 tubes

AL/Agar

Ready to use

356-3965 90 mm x 120 dishes

356-3695 90 mm x 20 dishes

Dehydrated

356-4043 500 g

Base Medium

355-5200 6 x quantity for 250 ml

Supplement 1

356-4041 1 box, 10 vials (1 vial qsp 500 ml)

356-4201 x 100 capsules

Supplement 2

356-4042 10 vials (1 vial qsp 500 ml)

RAPID'Salmonella/Agar

Ready to use

356-3961 90 mm x 20 dishes

356-3963 90 mm x 120 dishes

Dehydrated

356-4705 500 g

Enrichment Supplement

356-4709 RAPID'Salmonella Capsules, 10 x conc.,100

356-4710 RAPID'Salmonella Capsules, 100

356-4712 RAPID'Salmonella Supplement, 1 box qsp 100 analysis

Confirmation

355-3834 Oxidase Test, 2 x 50 discs

356-0781 Salmonella Omni-O Antiser (A-60), 3 ml

Dropper bottle, 60 tests

355-3822 ONPG Test, 50 discs

355-6710 Salmonella Latex Kit, 75 tests

355-6711 Salmonella Confirm Latex Kit, 50 tests

RAPID>Listeria spp./Agar

Ready to use

356-3950 90 mm x 20 dishes

Dehydrated Base

356-4744 500 g

Supplement 1

356-4745 1 box, 10 vials (1 vial qsp 500 ml)

Supplement 2

356-4746 1 box, 10 vials (1 vial qsp 500 ml)

Confirmation

356-3674 Palcam/Agar, 90 mm x 20 dishes

RAPID'E.coli O157:H7/Agar

Dehydrated

356-4748 100 g

Novobiocin Supplement

356-4610 1 g bottle

RAPID'Sakazakii/Agar

Ready to use

356-3971 90 mm x 20 dishes

Dehydrated

356-4976 500 g

MRSASelect™/Agar

Ready to use

356-3747 90 mm x 20 dishes

RAPID'E.coli 2/Agar

Ready to use

355-5299 100 ml x 6 bottles

355-5297 200 ml x 6 bottles

Dehydrated

356-4024 500 g

RAPID'Staph/Agar

Ready to use

356-3960 90 mm x 20 dishes

Dehydrated Base

356-4704 500 g

Confirmation/Baird-Parker + RPF Supplement

Complete Medium

357-8618 90 ml x 6 bottles + 6 vials of suppl.

356-3996 90 mm x 20 dishes

Base

356-4814 500 g

RPF Supplement

356-4618 1 box, 10 vials (1 vial qsp 100 ml)

RAPID'Campylobacter

Dehydrated Base

356-4295 500 g

Supplement

356-4296 10 vials (1 vial qsp 400 ml)

Confirmation

356-4297 Campylobacter Confirm Latex Kit, 50 tests

RAPID'Enterobacteriaceae

Dehydrated

356-4004 500 g

Ready to use

355-4012 200 ml x 6 bottles

iQ-Check Kits

357-8135 iQ-Check™ Campylobacter kit, 96 reactions

357-8137 iQ-Check™ Cronobacter spp. kit, 96 reactions

357-8114 iQ-Check™ E.coli O157:H7 kit, 96 reactions

357-8124 iQ-Check™ Listeria monocytogenes II kit, 96 reactions

357-8113 iQ-Check™ Listeria spp. kit, 96 reactions

357-8123 iQ-Check™ Salmonella II kit, 96 reactions

357-8142, iQ-Check™ S. Enteritidis, 96 reactions

357-8139 iQ-Check™ STEC VirX kit, 96 reactions

357-8140 iQ-Check™ STEC SerO kit, 32 reactions

BIO-RAD

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Laboratories, Inc.**

Life Science
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