WORLD CLASS QUALITY

HiCrome®

Single Streak Rapid Differentiation Series

Food Testing

Single streak **24hr** Results

COLOURS that

Identify the Pathogens

HiMediaLaboratories™

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HIMEDIA®

For Life is Precious

Salmonella species

HiCrome® Salmoconfirm Selective Agar M2116

Recommended for the isolation, differentiation and confirmation of *Salmonella* species from coliforms from food, water and clinical samples by chromogenic method.

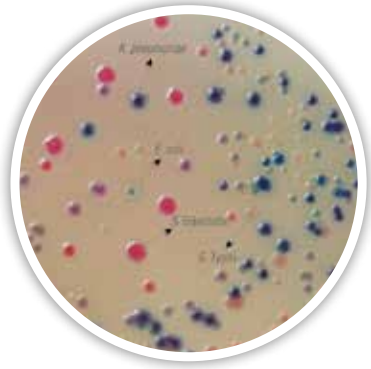
- XLD Agar is based on fermentation reaction and H_2S production hence second medium should be selected so as to detect lactose positive and H_2S negative strains.
- There are atypical *Salmonella* strains like lactose-negative, H_2S- negative/ lactose-positive, H_2S-positive/ lactose-positive, H_2S-negative, which could be missed on traditional *Salmonella* differentiation medias
- This medium is based on chromogenic differentiation wherein all *Salmonella* species gives purple coloured colonies.

M2116

Salmonella Differential Agar/ Modified (Twin Pack) (Rajhans Medium) M1078/M1082

Recommended for selective isolation and differentiation of *Salmonella* species from other *Enterobacteriaceae* especially *Proteus* species from food and clinical specimens.

- BC indicator to detect presence of β- galactosidase.
- Novel property of acid production from propylene glycol by *Salmonella* is exploited
- Lactose fermenting β- galactosidase positive organisms - blue-violet colonies
- *Salmonella* species produces acid from propylene glycol and combines with BC indicator to give pink coloured colonies
- Other *Enterobacteriaceae* - colourless
- Sodium deoxycholate for selectivity - Gram positive bacteria inhibited

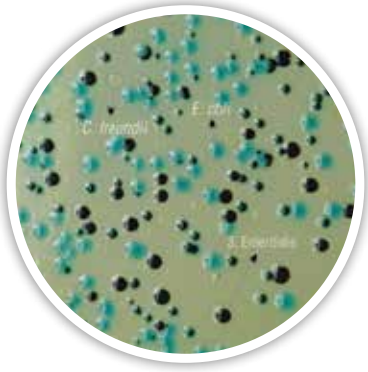


M1082

HiCrome® MM Agar M1393

Recommended for selective isolation and differentiation of *Salmonella* and non-*Salmonella* like *Citrobacter* from food samples.

- Chromogenic mixture to differentiate between lactose fermentors and non-fermentors
- Presence of three sugars D-cellobiose, mannitol and trehalose which stimulates better growth.
- Presence of lactose helps suppress H_2S production by non-Salmonella strains
- *E.coli* - light blue colonies
- *Salmonella* species gives black centred colonies
- *Citrobacter* - colourless (may show bluish green coloured on prolonged incubation)
- *Pseudomonas* - colourless

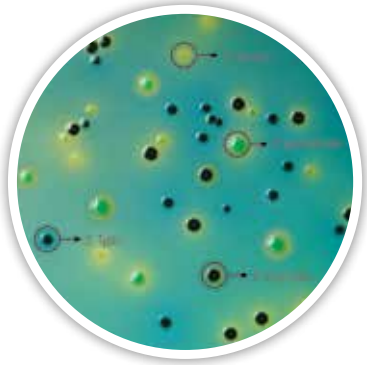


M1393

HiCrome® MM Agar Modified M1816

Recommended for selective isolation and differentiation of *Salmonella* and non-*Salmonella* like *Citrobacter* from clinical samples.

- Chromogenic mixture to differentiate between lactose fermenters and non-fermenters
- Presence of three sugars, D-cellobiose, sucrose and xylose which stimulates better growth.
- Presence of lactose helps suppress H_2S production by non-Salmonella strains
- BTB is indicator dye.
- *E.coli* - bluish green colonies
- *Salmonella* species gives black centred colonies
- *Citrobacter* - yellow (may show bluish green color on prolonged incubation)
- *Pseudomonas* - colourless
- *Klebsiella pneumoniae* - yellowish green



M1816

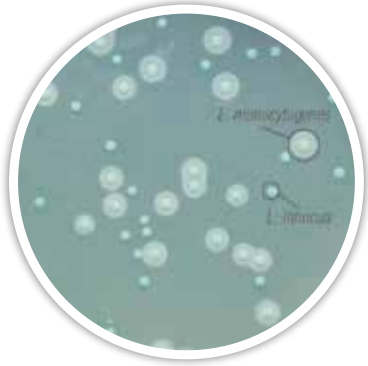
Listeria species

HiCrome® Listeria Ottaviani Agosti Agar Base M1540I

Recommended for the selective and differential isolation of *Listeria monocytogenes* from food and animal feed samples

- Composition is as per the specifications laid down in ISO 11290-1:2017, ISO 11290-2:2017, FDA BAM and APHA
- Differentiation of *Listeria monocytogenes* from other *Listeria species* is based on phosphatidyl inositol specific phospholipase C (PIPLC) activity
- Phospholipase C enzyme hydrolyses the purified substrate (FD214) added to the medium resulting in an opaque halo around colonies (positive organisms)
- Selective supplement (FD212A) - inhibits accompanying microflora

L.monocytogenes – greenish blue w/PIPLC activity
L.ivanovii – greenish blue w/ PIPLC activity
L.innocua – greenish blue w/ no PIPLC activity

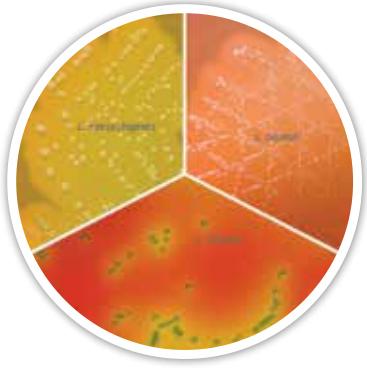


M1540

HiCrome® L.mono Rapid Differential Agar Base M1924

Recommended for the rapid identification and differentiation of *Listeria monocytogenes* from other *Listeria species* from food samples.

- Differentiation based on rhamnose fermentation and PIPLC activity
- Chromogenic mixture to detect β -glucosidase activity, which is specific for *Listeria species* giving blue colored colonies.
- Other organisms cannot utilize the substrate, giving white colonies.
- *L.monocytogenes* positive rhamnose fermentation and positive PIPLC activity – bluish green w/ yellow halo & + PIPLC activity (opaque halo around colonies)
- *L.ivanovii* negative rhamnose fermentation and positive PIPLC activity – bluish green w/ pink & + PIPLC activity (opaque halo around colonies)
- *L.inocua* positive rhamnose fermentation and negative PIPLC activity - bluish green w/ yellow halo & no PIPLC activity
- Other organisms - inhibited



M1924

HiCrome® Listeria Agar Base/Modified M1417F/M1417

A selective and differential agar medium recommended for rapid and direct identification of *Listeria* species from food and clinical samples.

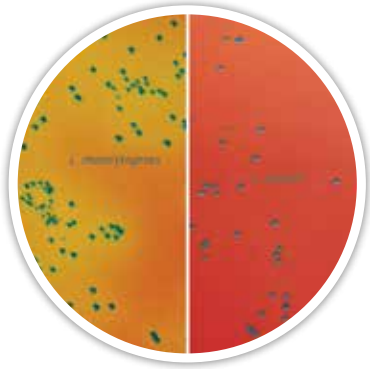
- The composition of M1417F is in accordance with FDA BAM, 1998.
- M1417 is based on rhamnose fermentation while M1417F is based on Xylose fermentation.
- Phenol red is the indicator dye.
- Chromogenic mixture to detect β -glucosidase activity, which is specific for *Listeria species* giving blue colored colonies.
- Other organisms cannot utilize the substrate, giving white colonies.
- Lithium chloride and selective supplement - inhibits most gram positive and gram negative organisms, yeasts and moulds

M1417

- *L.monocytogenes* and *L.innocua* ferments rhamnose - bluish green w/yellow halo
- *L.ivanovii* does not ferment rhamnose - bluish green

M1417F

- *L.ivanovii* ferments xylose - bluish green w/yellow halo
- *L.monocytogenes* and *L.innocua* does not ferment xylose - bluish green

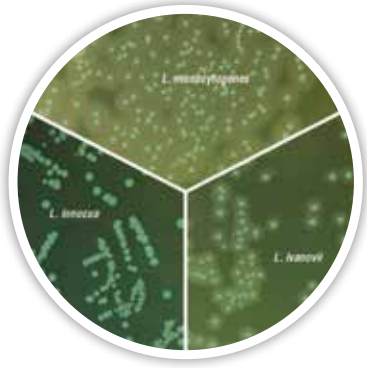


M1417

HiCrome® L.mono Differential Agar Base M2009

Recommended for the selective and differential isolation, enumeration and identification of *Listeria monocytogenes* and *Listeria species* based on PCPLC activity from food samples.

- Differentiation based on Phosphotidylcholine phospholipase C (PCPLC) activity
- Chromogenic mixture to detect β -glucosidase activity, which is specific for *Listeria species* giving blue colored colonies.
- Other organisms cannot utilize the substrate, giving white colonies.
  L.monocytogenes – bluish green w/ positive PCPLC activity
  L.ivanovii – bluish green w/ positive PCPLC activity
  L.inocua – bluish green w/ negative PCPLC activity
- Selective supplement – inhibits accompanying microflora



M2009

Staphylococcus aureus

HiCrome® Aureus Agar Base M1468

Recommended for isolation and identification of Staphylococci from food, environmental samples.

- Coagulase positive *S. aureus* gives brown black colonies with clear zone around the colony due to Lecithinase activity
- *S. epidermidis* gives slightly brownish colonies.
- Other organisms give either colourless colonies or bluish coloured colonies due to the presence of chromogen.
- Lithium chloride and potassium tellurite inhibit contaminating microflora.

Staphylococcus aureus subsp. *aureus* – brown black, coagulase positive
Staphylococcus epidermidis – yellow slight brownish, Negative coagulase
Listeria monocytogenes – bluish, Negative coagulase
Other organisms – colourless Negative coagulase

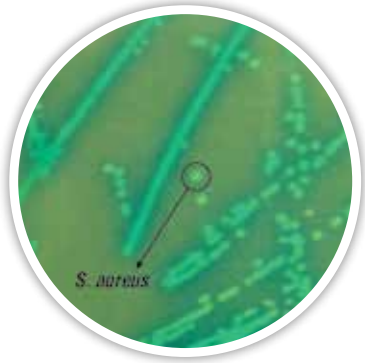
M1468

HiCrome® Staph Selective Agar M1931

Recommended for the isolation and enumeration of *Staphylococcus aureus* from food and clinical samples.

- Chromogenic mixture imparts blue colour to *Staphylococcus* species.
- Mannitol is the fermentable carbohydrate with phenol red as an indicator
- Mannitol fermenters (green colour) and mannitol non-fermenters (blue)
- Selective mix inhibits other accompanying microflora

Staphylococcus aureus subsp. *aureus* - green colonies
Staphylococcus epidermidis - blue colonies



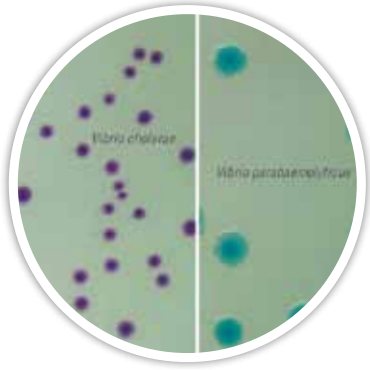
M1931

Vibrio species

HiCrome® Vibrio Agar M1682

Recommended for the isolation and selective chromogenic differentiation of *Vibrio* species from seafood and clinical samples.

- Chromogenic mixture to detect presence of β-galactosidase
- Easy and Rapid differentiation between *Vibrio cholerae* and *Vibrio parahaemolyticus*
- *Vibrio cholerae* - purple; *Vibrio parahaemolyticus*- green
- Sodium thiosulphate, sodium citrate and sodium cholate- inhibits gram positive and gram negative
- High salt concentration helps selective growth of *Vibrio*



M1682

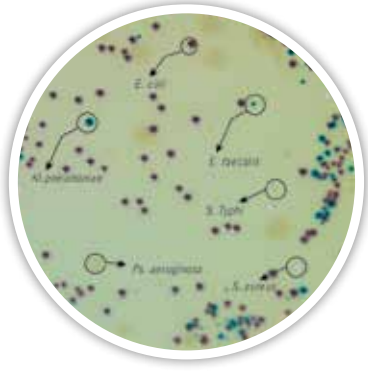
Universal Medium

HiCrome® Universal Differential Medium M1600

Recommended for presumptive identification and confirmation of microorganisms from clinical and non-clinical specimens.

- Chromogenic mixture to detect presence of β-glucosidase and β-D-galactosidase enzymes.
- One chromogenic substrate is cleaved by β-glucosidase enzyme in Enterococci resulting in formation of blue colonies.
- *Escherichia coli* produce purple-magenta colonies due to β-D-galactosidase which cleaves the other chromogenic substrate.
- Rich source of phenylalanine and tryptophan provides an indication of tryptophan deaminase activity by *Proteus* species, *Morganella* species and *Providencia* species.

Escherichia coli	purple
Enterococcus faecalis	blue (small)
Klebsiella pneumonia	blue green, mucoid
Proteus mirabilis	light brown
Pseudomonas aeruginosa	colourless (greenish pigment may be observed)
Staphylococcus aureus subsp. *aureus*	golden yellow
Salmonella species	colourless



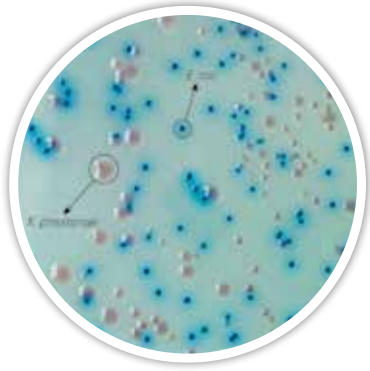
M1600

E.coli and Total Coliforms

HiCrome® Coliform Agar w/SLS /Modified M1300/ M1832

Recommended for simultaneous detection of *Escherichia coli* and total coliforms in food, milk, dairy and water samples

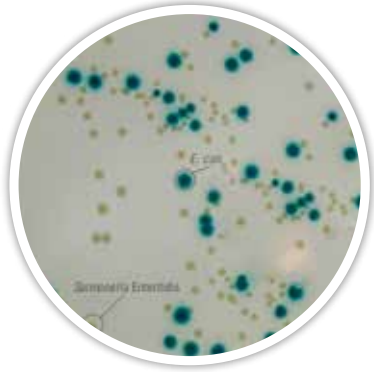
- Two chromogens to detect presence of β-glucuronidase and β-galactosidase enzymes
- β-glucuronidase produced by *Escherichia coli*- cleaves X-glucuronide to give dark blue to violet
- L-Tryptophan added to improve indole detection
- β-galactosidase enzyme produced by other coliforms - Salmon to red coloured colonies
- *Salmonella /Shigella* species - colourless
- Sodium lauryl sulphate for selectivity - Gram positive bacteria inhibited
- M1300 has pH of 6.8 ± 0.2 while M1832 has pH of 7.2 ± 0.2 (recommended for thermotolerant *E.coli*)



HiCrome® E. coli Agar M1295I/M1591

Recommended for the detection and enumeration of *Escherichia coli* from foods and clinical samples without further confirmation on membrane filter or by indole reagent.

- Composition is as per the specifications laid down in ISO 16649-1:2018 & ISO 11133:2014(E)/ Amd.:2020 (M1295I) and ISO 16649-2:2001 & ISO 11133:2014 (E)/Amd.:2020 (M1591)
- The chromogenic agent X-glucuronide used in this medium helps to detect glucuronidase activity of *E.coli*.
- Most of the *E.coli* strains can be differentiated from other coliforms by the presence of enzyme glucuronidase, which is highly specific for *E.coli*.
- Bile salts mixture inhibits gram-positive organisms.

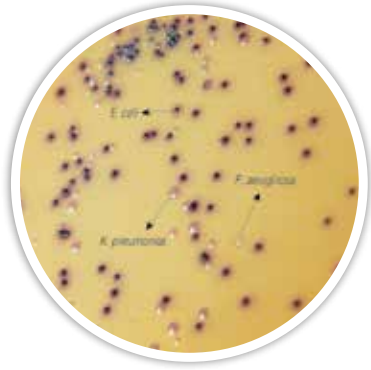


M1295

HiCrome® ECC Agar M1293

Recommended for presumptive identification of *Escherichia coli* and other coliforms in food and environmental samples.

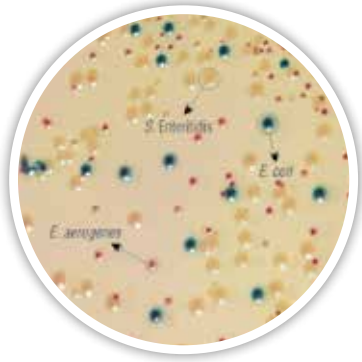
- Two chromogens to detect presence of β-glucuronidase and β-galactosidase enzymes
- Enzyme β-glucuronidase produced by *Escherichia coli* - give blue to purple coloured colonies
- Enzyme galactosidase produced by other coliforms imparts - rose-pink
- *Pseudomonas*- colourless
- Other non coliform - Colourless to pale pink



HiCrome® ECC Selective Agar Base/Modified M1294/M2056

Recommended for presumptive identification of *Escherichia coli* and other coliforms in food and water samples.

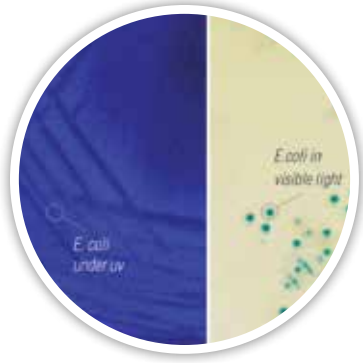
- Two chromogens to detect presence of β-glucuronidase and β-galactosidase enzymes β-glucuronidase produced by *E.coli* -dark blue to violet colonies
- Other coliforms possess β-galactosidase- Salmon to red coloured colonies
- L-Tryptophan added to improve indole detection
- Tergitol 7 and Selective supplement (M1294) or Sodium Lauryl Sulphate (M2056)for selectivity - Gram positive bacteria - inhibited
- *Salmonella* - colourless



HiCrome® ECD Agar w/MUG M1488

Recommended for detection of presence and absence of *Escherichia coli* and total coliform in water samples

- Combination of chromogenic and fluorogenic substrate to detect presence of β-glucuronidase.
- *E.coli*-blue-green, positive β-glucuronidase and positive fluorescence under uv
- Other coliforms - colourless, negative β-glucuronidase and negative fluorescence under uv
- Bile salts mixture for selectivity - Gram positive bacteria inhibited

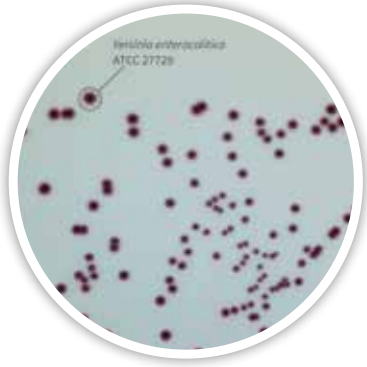


Yersinia species

HiCrome® Yersinia Agar Base M2025

Recommended for isolation of pathogenic *Yersinia enterocolitica* from clinical and food specimens.

- Recommended for selective isolation of *Yersinia enterocolitica* by chromogenic method
- *Yersinia* species gives purple coloured colonies.
- Selective mix and supplement inhibits accompanying flora



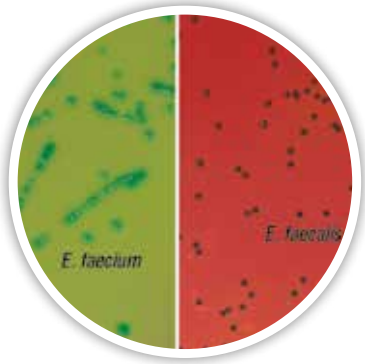
M2025

Enterococcus species

HiCrome® Enterococcus faecium Agar Base M1580

Recommended for the identification and differentiation of *Enterococcus faecium* from water, faeces and sewage samples

- Chromogenic substrate detects β-glucosidase which imparts blue colour to *Enterococcus* species
- Presence of Arabinose and phenol red to differentiate between *Enterococcus faecalis* (blue) and *Enterococcus faecium* (green with yellow background)
- Selective supplement - inhibits accompanying microflora especially gram negative organisms



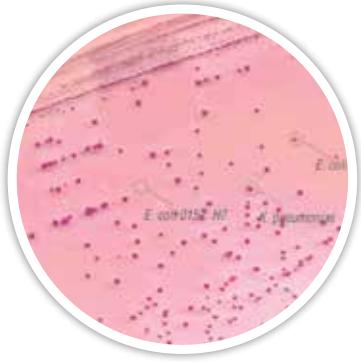
M1580

EC O157

HiCrome® MacConkey Sorbitol Agar Base M1340

Recommended for selective isolation of *Escherichia coli* O157:H7 from food, animal feeding stuffs and clinical samples.

- The medium contains sorbitol instead of lactose and it is recommended for the detection of enteropathogenic strains of *Escherichia coli* O157:H7 that ferments lactose but does not ferment sorbitol



M1340

HiCrome® Enrichment Broth Base for EC 0157:H7 M1598

Recommended for selective differentiation of *Escherichia coli* O157:H7 from food and environmental samples

- Mixture of chromogenic substrate to detect β-glucuronidase and β-D-galactosidase enzyme. Sorbitol is the fermentable carbohydrate.
- #*Escherichia coli*- blue may show slight precipitation of growth
- *Escherichia coli* O157:H7 - purple may show slight precipitation of growth
- #*Cronobacter sakazakii* - white, may show slight precipitation of growth
- *Klebsiella* - bluish green may show slight precipitation of growth
- *Salmonella* Enteritidis- white may show slight precipitation of growth
- #*Shigella flexneri*- colourless
- Bile salt mixture and selective supplement for selectivity - Gram positive bacteria inhibited

Key :# -partial to complete inhibition on addition of supplement

1. Control
2. *E. coli* 0157:H7 (NCTC 12900)
3. *Escherichia coli* (ATCC 25922)
4. *Cronobacter sakazakii* (ATCC 12868)
5. *Klebsiella pneumoniae* (ATCC 13883)

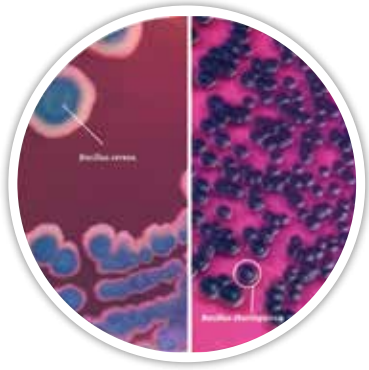
Bacillus species

HiCrome® Bacillus Agar M1651

Recommended for isolation and differentiation between *Bacillus* species.

- Chromogenic mixture to detect presence of β-glucosidase
- Colour differentiation for proper identification between species
- Mannitol is the fermentable carbohydrate with Phenol red as an indicator
- Selective supplement further selects *Bacillus cereus* and *Bacillus thuringiensis* and inhibits other *Bacillus*
  Bacillus cereus- light blue, large flat with blue centre
  Bacillus spizizenii - yellowish green -green
  Bacillus thuringiensis - light blue, large, flat with irregular margins
  # Priestia megaterium- yellow, mucoid
  ## Weizmannia coagulans - pink, small raised colonies
  Bacillus pumilis - light green -green

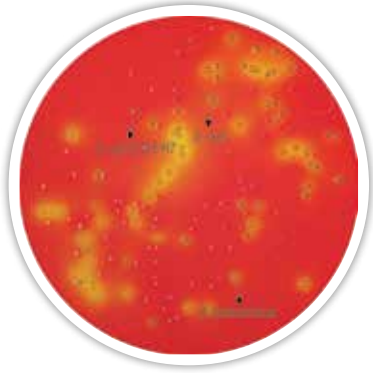
  # - Formerly known as *Bacillus megaterium*
  ## - Formerly known as *Bacillus coagulans*



HiCrome® M-Modified EC 0157:H7 Selective Agar Base M1862

Recommended for selective differentiation of *Escherichia coli* O157:H7 from food samples by membrane filtration technique

- Based on three biochemical reactions - presence of β - glucuronidase, lysine decarboxylase (positive for typical EHEC O157 strains) and sorbitol fermentation
- *Escherichia coli*- green
- *Escherichia coli* O157:H7 - pink
- *Klebsiella pneumoniae* - yellow
- Sodium deoxycholate and selective supplement for selectivity - Gram positive bacteria inhibited



Bifidobacterium / *Lactobacillus* species

HiCrome® Bifidobacterium Agar M1960

Recommended for the differentiation of *Bifidobacterium* and *Lactobacillus* species.

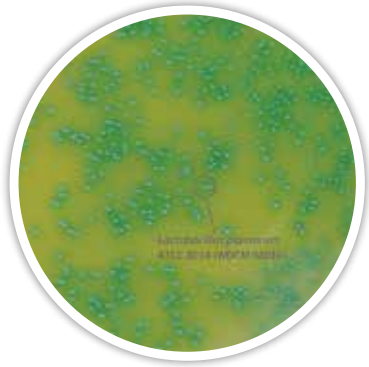
- The indicator system in the chromogenic mixture helps in distinguishing between *Lactobacillus* and *Bifidobacterium* species.
- *Lactobacillus plantarum* usually produce green colonies with opaque zone.
- *Bifidobacterium breve* produces red pink halo zone.

M1960

HiCrome® Lactobacillus Selective Agar Base M2065

Recommended for selective isolation and differentiation of *Lactobacillus* from mixed culture by chromogenic method.

- The chromogenic mixture present in the medium is cleaved by the enzyme beta-glucosidase present in *Lactobacillus* resulting in Light green to green coloured colonies.
- Cip selective supplement (FD345) is added which inhibits the accompanying bacteria enabling isolation of *Lactobacillus.*



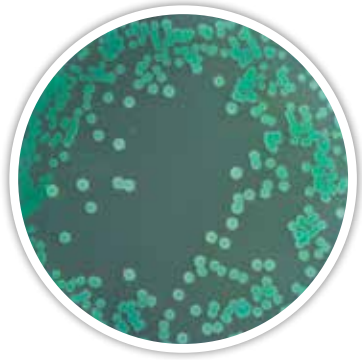
M2065

Cronobacter species

HiCrome® Cronobacter Isolation Agar (CCI Agar) M2062I

Recommended for the isolation and identification of *Cronobacter sakazakii* from food products.The composition and performance of this media are as per specifications laid down in ISO 22964: 2017.

- The chromogenic substrate (5-Bromo-4-chloro-3-indolyl α-D-glucopyranoside) is cleaved specifically by *C.sakazakii* resulting in the formation of blue green colonies.
- Other organisms, which do not cleave this substrate, produce colourless colonies.
- Sodium deoxycholate inhibits the accompanying gram-positive flora.



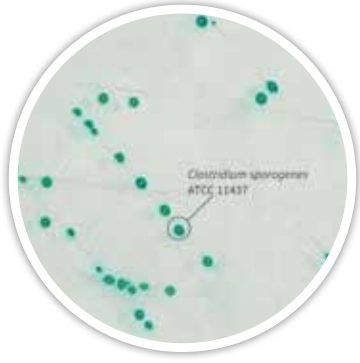
M2062I

Clostridial species

HiCrome® Clostridial Agar Base M2026

Recommended for selective isolation and presumptive identification of *Clostridium* species.

- Recommended for selective isolation of *Clostridium* by chromogenic method.
- *Clostridium perfringens* & *Clostridium difficile* gives pale yellowish green coloured colonies.
- *Clostridium sporogenes* gives pale green -bluish green coloured colonies.
- Selective supplement inhibits accompanying flora.

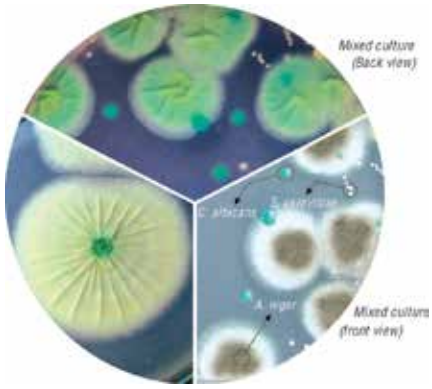


Dairy

HiCrome® OGYE Agar Base M1467

Recommended for isolation and enumeration of yeasts and moulds from food, milk and milk products.

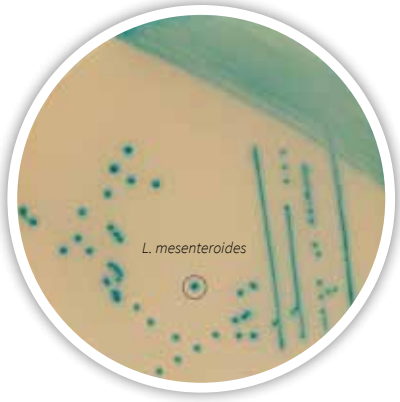
- Medium supports growth with detection in 48 hours.
- Chromogenic mixture helps differentiate between *C.albicans, S.cerevisiae* and *Aspergillus*
- Low pH and Oxytetracycline (Selective supplement) helps in inhibiting bacterial growth.
  Candida albicans - green
  Saccharomyces cerevisiae - colourless
  Aspergillus brasiliensis- light blue with black spores.



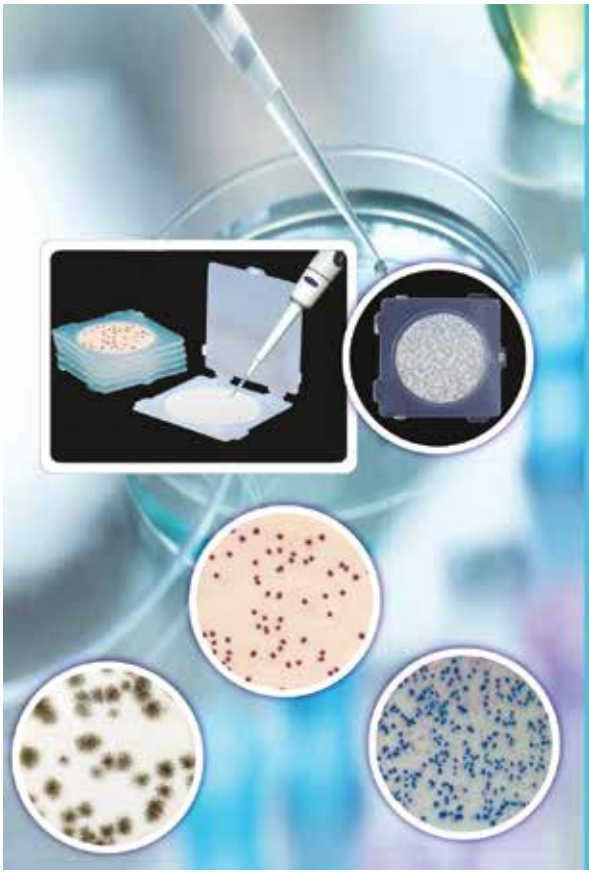
HiCrome® Nickels and Leesment Agar Base M1712

Recommended for enumeration of citrate fermenting lactic acid bacteria from milk, milk products and mesophilic starter cultures.

- Formulation is as per the specifications laid down in ISO 17792
- Medium supports growth with detection in 48-72 hours.
- Chromogenic substrate (X-gal) helps differentiate between *Lactobacillus lactis* subsp. *lactis* and *Leuconostoc* species
- Selective supplement helps inhibit accompanying microflora
- CMC provides opaque background for better visibilty.
- Tricalcium dicitrate tetrahydrate helps detect citrate fermenting lactic acid bacteria
  Lactobacillus lactis subsp. *lactis* biovar diacetylactis - white with a clear zone
  Lactobacillus lactis subsp. *lactis* - white without a clear zone
  Lactobacillus lactis subsp. *cremoris*- white without a clear zone
  Leuconostoc mesenteroides- blue without a clear zone



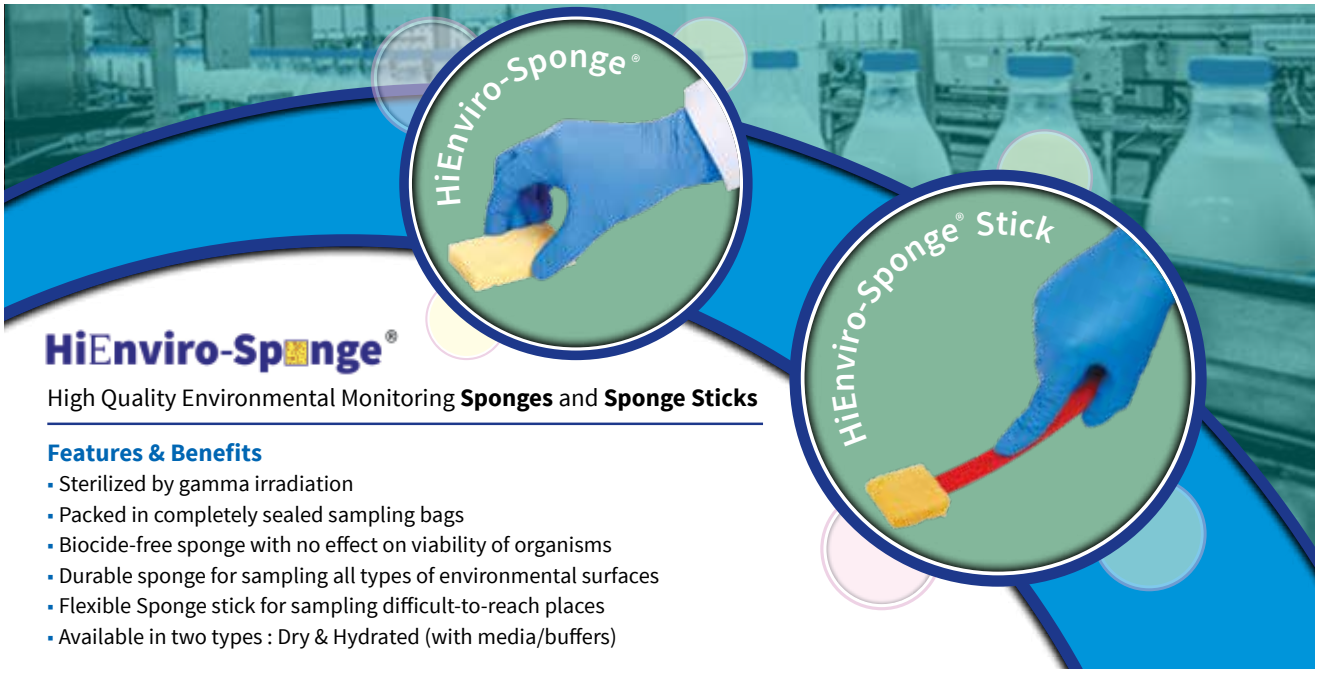
Ready Prepared Media Products Used in Food Industry



HiPetri Slim™ Plate

Salient features :

- Ready-to-use medium in dry and concise form
- Recommended for testing liquid samples
- Widespread Industrial application (Water, Food & Cosmetics)
- Compact packing reduces storage space
- No Preparation time
- User-friendly ready-to-use products
- Available in wide range of products that can be customized as per requirement



HiEnviro-Sponge®

High Quality Environmental Monitoring **Sponges** and **Sponge Sticks**

Features & Benefits

- Sterilized by gamma irradiation
- Packed in completely sealed sampling bags
- Biocide-free sponge with no effect on viability of organisms
- Durable sponge for sampling all types of environmental surfaces
- Flexible Sponge stick for sampling difficult-to-reach places
- Available in two types : Dry & Hydrated (with media/buffers)

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For Life is Precious

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