WORLD CLASS QUALITY



# Food & Clinical Testing



# Identify the Pathogens



HiMediaLaboratories<sup>™</sup> himedialabs.com

## Salmonella species

#### 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  $\beta$  galactosidase.
- Novel property of acid production from propylene glycol by Salmonella is exploited
- Lactose fermenting  $\beta$  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



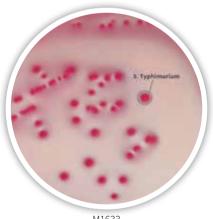
M1082

#### - HiCrome™ Rajhans Medium/Modified (Salmonella Agar/Modified)

#### M1633/M1634

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

- Chromogenic mixture to detect presence of  $\beta$  galactosidase.
- Lactose fermenting  $\beta$  galactosidase positive organisms light purple blue-violet colonies
- Lactose is the fermentable carbohydrate with neutral red as an indicator dye
- Salmonella species gives pink coloured colonies due to presence of chromogenic mixture
- Other Enterobacteriaceae colourless
- · Sodium deoxycholate for selectivity Gram positive bacteria inhibited



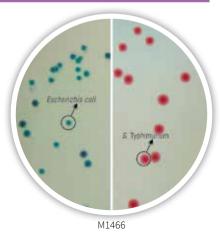
M1633

M1296/M1466

#### HiCrome™ Salmonella Agar/HiCrome™ Improved Salmonella Agar

Recommended for selective isolation and differentiation of *Salmonella* species and *Escherichia coli* from food and clinical specimens.

- Chromogenic mixture to detect presence of  $\beta$ -glucuronidase
- Escherichia coli blue colonies
- Salmonella species gives light purple with halo (M1296) coloured or pink-red (M1466) coloured colonies due to presence of chromogenic mixture
- · Bile salt mixture /Sodium deoxycholate for selectivity Gram positive bacteria inhibited



## Listeria species

#### - HiCrome™ Listeria Agar Base/Modified

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

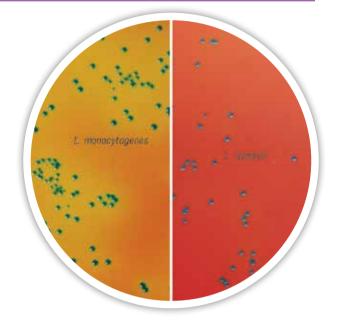
- The composition of M1417F is in accordance with FDA BAM, 1998.
- M1417 is based on rhamnose fermentation while M1417F is based on Xylose fermentation.
- Phenol red is the indicator dye.
- Chromogenic mixture to detect β -glucosidase activity, which is specific for *Listeria species* giving blue colored 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



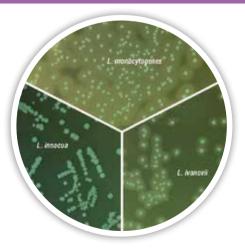
M1417

M2009

#### HiCrome<sup>™</sup> L.mono Differential Agar Base

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

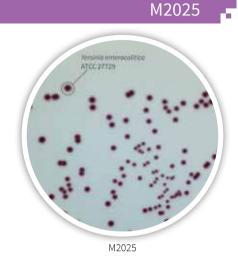
#### M1417F/M1417

## Yersinia species

#### 📕 HiCrome™ Yersinia Agar Base

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



### Enterococcus species

#### ∎ HiCrome™ Enterococcus faecium Agar Base

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

- Medium to support rapid growth in 18-24 hours
- Chromogenic substrate detects  $\beta$ -glucosidase which imparts blue green 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

# E. faecium

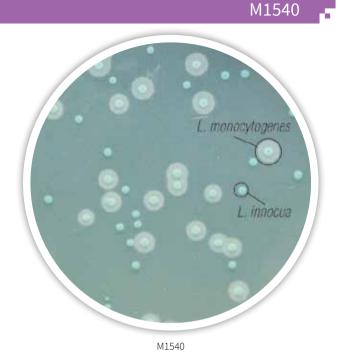
M1580

#### L.mono Differential Agar Base

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

- Composition is as per the specifications laid down in ISO 11290-1:1997
- 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 inhibits accompanying microflora

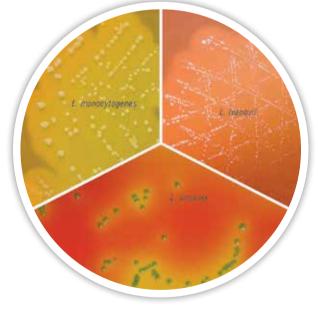
*L.monocytogenes* – greenish blue w/PIPLC activity *L.ivanovii* – greenish blue w/ PIPLC activity L.innocua – greenish blue w/ no PIPLC activity



#### HiCrome<sup>™</sup> L.mono Rapid Differential Agar Base

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

- Differentiation based on rhamnose fermentation and PIPLC activity
- Chromogenic mixture to detect  $\beta$  -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



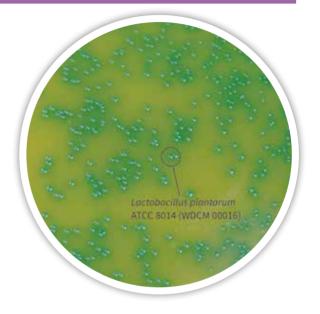
M1924

## Lactobacillus species

#### HiCrome™ Lactobacillus Selective Agar Base

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

- Selective medium for differentiation between Lactobacillus species.
- Detection of  $\beta$ -glucosidase by *Lactobacillus* species resulting in greenish blue to blue coloured colonies
- Selective supplement (Ciprofloxacin) inhibits accompanying flora



M2065

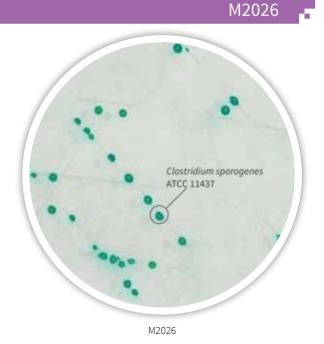
M2065

## Clostridial species

#### <mark>∎</mark> HiCrome<sup>™</sup> Clostridial Agar Base

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

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



## Staphylococcus aureus

#### HiCrome™ Aureus Agar Base

Recommended for isolation and identification of Staphylococci from food, environmental and clinical 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 – brown black, coagulase positive Staphylococcus epidermidis – yellow slight brownish, Negative coagulase Listeria monocytogenes – bluish, Negative coagulase Other organisms – colourless Negative coagulase

# S. HUREDS

M1468

M1837

M1468

#### HiCrome™ Staph Agar Base, Modified

HiCrome<sup>™</sup> Staph Agar Base, Modified is a selective medium recommended for the isolation and enumeration of *Staphylococcus aureus* from food and clinical samples.

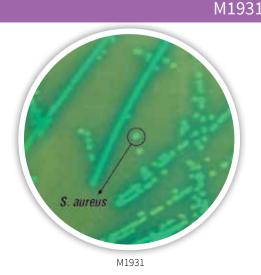
- The chromogenic mixture incorporated in the medium is specifically cleaved by *Staphylococcus aureus* to give blue coloured colonies clearly visible against the opaque background
- Opaque background for better visibility
- Staphylococcus aureus blue colonies
- Lithium chloride and high salt concentration inhibits most accompanying flora

#### - HiCrome™ Staph Selective Agar

HiCrome<sup>™</sup> Staph Selective Agar is a selective medium 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 -* green colonies *Staphylococcus epidermidis -* blue colonies

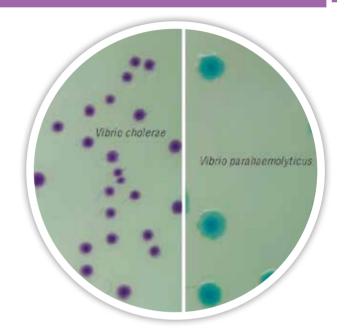


## Vibrio species

#### HiCrome™ Vibrio Agar

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

- Chromogenic mixture to detect presence of  $\beta$ -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

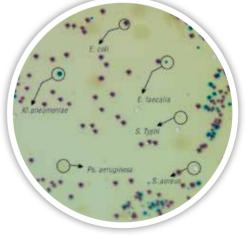
#### Universal Medium

#### HiCrome™ Universal Differential Medium

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  $\beta$ -glucosidase enzyme in Enterococci resulting in formation of blue colonies.
- Escherichia coli produce purple-magenta colonies due to  $\beta$ -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-magenta
  - Enterococcus faecalis Klebsiella pneumonia Proteus mirabilis Pseudomonas aeruginosa Staphylococcus aureus Salmonella
- purple-magenta blue-blue green (small) blue to purple, mucoid light brown colourless (greenish pigment may be observed) golden yellow colourless







#### HiCrome™ Selective Salmonella Agar Base

Recommended for selective isolation and differentiation of *Salmonella* species from food samples.

- Chromogenic mixture to differentiate between Enterobacteriaceae and Salmonella
- Klebsiella and Enterobacter blue to dark blue colonies
- Salmonella species gives purple coloured colonies
- Other Enterobacteriaceae colourless
- Sodium cholate, Sodium taurocholate and Sodium deoxycholate for selectivity Gram positive bacteria inhibited

#### M1842

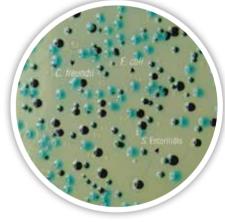
M1393



### HiCrome™ MM Agar

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  $\mathrm{H_2S}$  production by non-Salmonella strains
- *E.coli* blue colonies
- Salmonella species gives black centred colonies
- Citrobacter colourless (may show blue coloured on prolonged incubation)
- Pseudomonas colourless



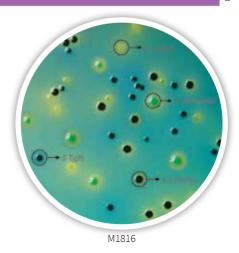
#### M1393

#### M1816

HiCrome™ MM Agar Modified

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

- Chromogenic mixture to differentiate between lactose fermentors and non-fermentors
- Presence of three sugars, D-cellobiose, sucrose and xylose which stimulates better growth.
- Presence of lactose helps suppress H<sub>2</sub>S 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 bluish green







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