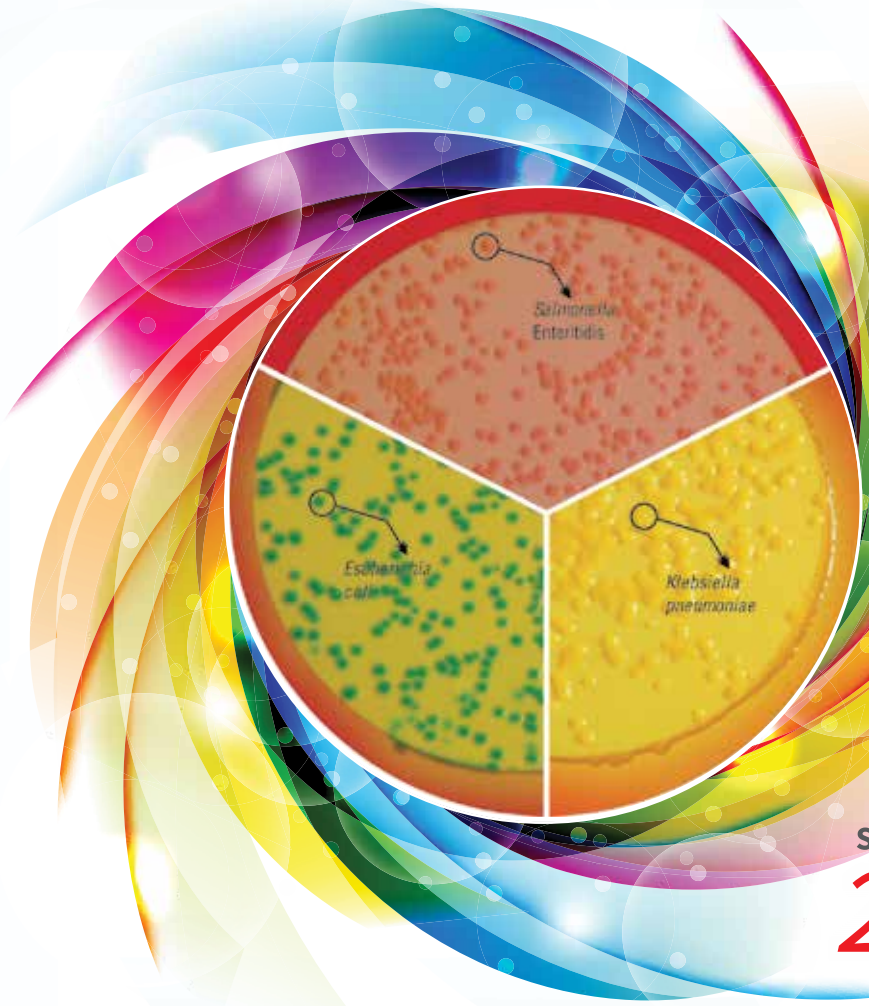
WORLD CLASS QUALITY

HiCrome™

Single Streak Rapid Differentiation Series

Water Testing



Single streak

24hr

Results

COLOURS that Identify the Pathogens

HIMEDIA®

For Life is Precious

HiMediaLaboratories™

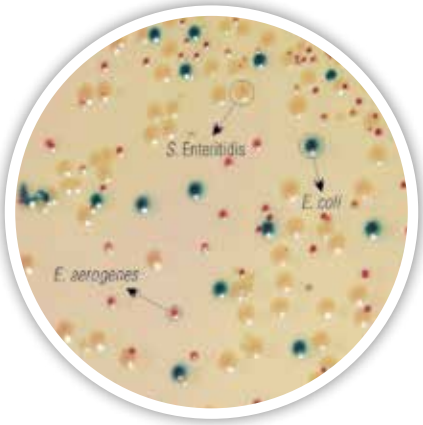
himedialabs.com

Escherichia coli and Total coliforms

HiCrome™ ECC Selective Agar Base/Modified M1294/M2056

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

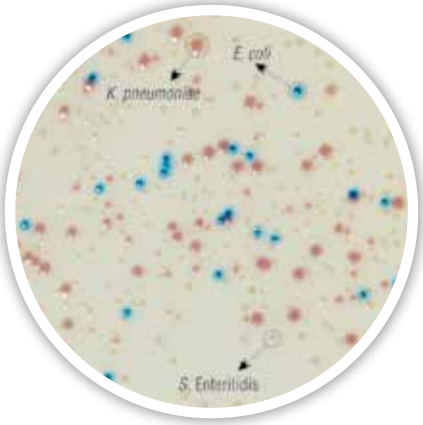
- Two chromogens to detect presence of β-glucuronidase and β-galactosidase enzymes
- β-glucuronidase produced by *E.coli* -dark blue to violet colonies
- Other coliforms possess β-galactosidase- Salmon to red
- L-Tryptophan added to improve indole detection
- Tergitol 7 and Selective supplement (M1294)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



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

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

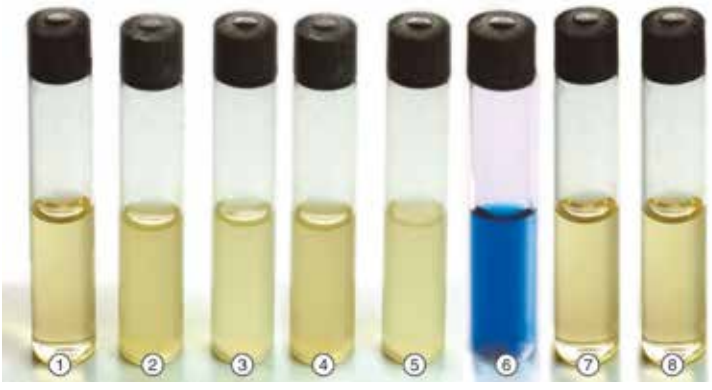
- Two chromogens to detect presence of β-glucuronidase and β-galactosidase enzymes
- β-glucuronidase produced by *E.coli* -dark blue to violet colonies
- L-Tryptophan added to improve indole detection
- Other coliforms possess β-galactosidase- Salmon to red
- *Salmonella /Shigella* species - colourless
- Sodium lauryl sulphate for selectivity -Gram positive bacteria inhibited



Coliform Broth w/SLS M1826

Recommended for simultaneous detection of *Escherichia coli* and other *Enterobacteriaceae in* water samples

- Presence of single chromogens to detect presence of β-glucuronidase enzymes
- β-glucuronidase produced by *E.coli* -blue
- Other *Enterobacteriaceae* - colourless
- L-Tryptophan added to improve indole detection
- Sodium lauryl sulphate for selectivity -Gram positive bacteria inhibited



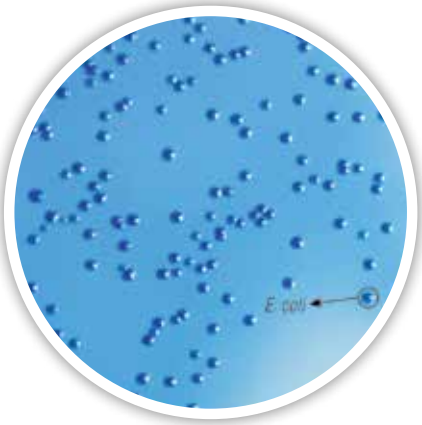
1. Control
2. *Citrobacter freundii* ATCC 8090
3. *Klebsiella pneumoniae* ATCC 13883
4. *Salmonella* Enteritidis ATCC 13076
5. *Shigella flexneri* ATCC 12022
6. *Escherichia coli* ATCC 25922
7. *Enterococcus faecalis* ATCC 29212
8. *Staphylococcus aureus* ATCC 25923

Membrane filtration

HiCrome™ M-Coliform Differential Agar Base M1951

Recommended for simultaneous detection of *Escherichia coli* and total coliforms in water samples by membrane filtration technique

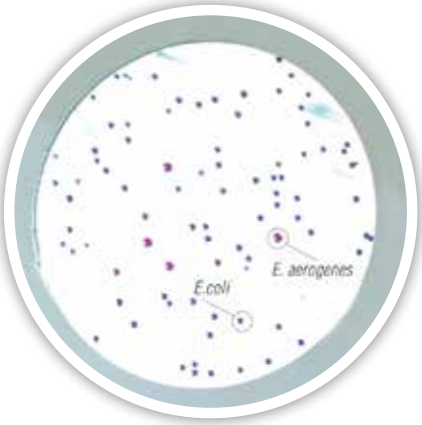
- Chromogenic substrate along with aniline blue - detects presence of β-glucuronidase enzyme produced by *E. coli* to give blue coloured colonies
- *Proteus* species - tan
- Sodium deoxycholate and monensin for selectivity -Gram positive bacteria inhibited



M-E.coli Broth M1426

Recommended for simultaneous detection of *Escherichia coli* and total coliforms in water samples by membrane filtration technique

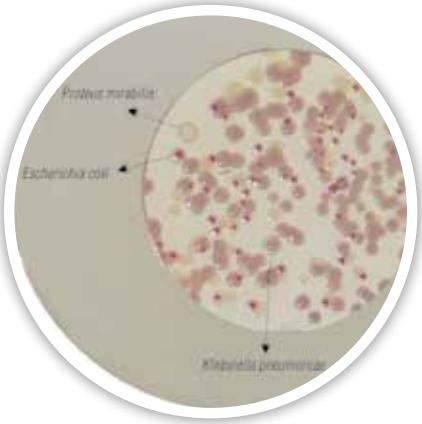
- Chromogenic substrate along with TTC - detects presence of β-glucuronidase enzyme and TTC reduction imparting blue coloured colonies of *E.coli*
- Other coliforms - red
- Bile salt mixture for selectivity-Gram positive bacteria inhibited



HiCrome™ M-TEC Agar / Broth M1571/M1713

Recommended by USEPA for differentiation and enumeration of thermo tolerant *Escherichia coli* in water samples by membrane filtration technique.

- Presence of chromogen to detect β-glucuronidase enzyme prodeced by *E.coli* give purple / magenta colonies
- *Klebsiella* gives - colourless to tan coloured colonies
- *Proteus mirabilis* - colourless to light brown
- Lactose is the fermentable carbohydrate *E.coli*-purple/magenta
- Sodium lauryl sulphate and sodium deoxycholate for selectivity - Gram positive bacteria inhibited



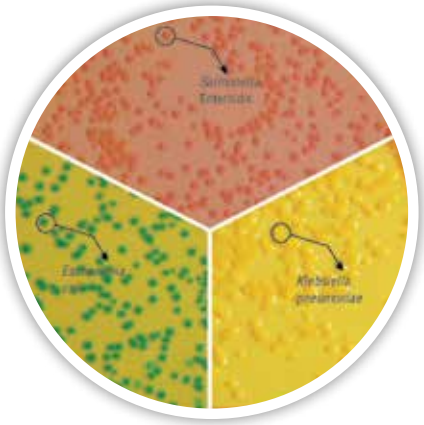
M1571

Water Testing

HiCrome™ M-Lauryl Sulphate Agar M1569

Recommended for simultaneous detection of *Escherichia coli* and total coliforms in water samples by membrane filtration technique

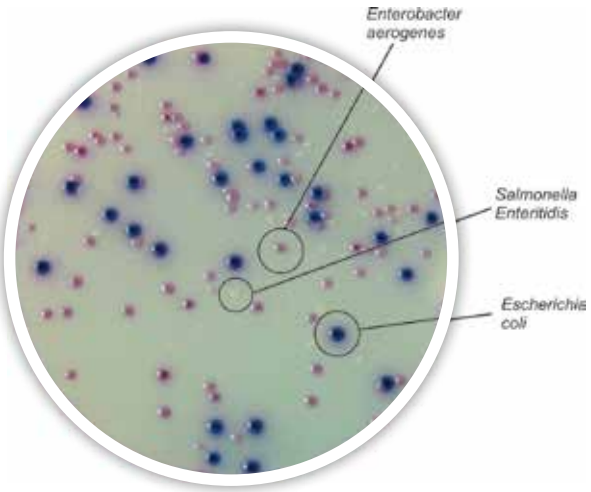
- Chromogenic substrate along with Lactose fermentation and phenol red indicator - detects presence of β-glucuronidase enzyme and differentiates between lactose fermentors and non- fermentors
- *E.coli*-green
- Lactose fermentors glucuronidase negative - yellow
- Lactose non-fermentors - pink
- Sodium lauryl sulphate for selectivity - Gram positive bacteria inhibited



HiCrome™ Chromogenic Coliform Agar (CCA) M1991I

Recommended for simultaneous detection of *Escherichia coli* and total coliforms in water samples by membrane filtration technique

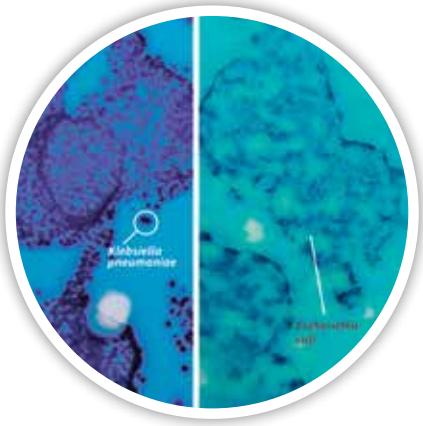
- Formulation is as per the specifications laid down in ISO 9308-1:2014.
- Mixture of three chromogens to detect β-galactosidase and β-glucuronidase enzymes. IPTG is added to enhance colour detection.
- *E.coli*-dark blue -violet
- L-Tryptophan - improved indole reaction
- Other coliforms - pink to red
- *Pseudomonas* - colourless
- Tergitol-7 for selectivity -Gram positive bacteria inhibited



HiCrome™ M-Coliconfirm Broth Base M2064

Recommended for detection of *Escherichia coli* and other coliforms in water samples by membrane filtration.

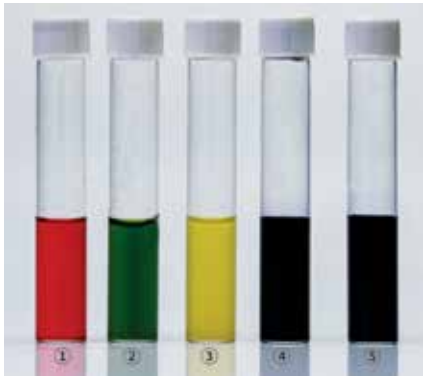
- Recommended by APHA Standard method for the examination of water and waste water, 23rd edition
- Differentiates between *E.coli* and total coliform – chromogenic utilization and TTC reduction.
- *Escherichia coli* possess β-D-glucuronidase- Blue coloured
- Methylene blue and selective supplement inhibits gram positive bacteria.
- Other non-coliforms gives colourless colonies



HiCrome™ Rapid ECC Broth M2011

Recommended for rapid detection of *Escherichia coli* and other *Enterobacteriaceae* from water samples.

- Rapid detection of *E.coli* and coliforms in 12-18 hours.
- Highly nutritious and can support rapid growth
- Lactose is fermentable carbohydrate and phenol red is indicator, differentiates between lactose fermenters and non-fermentors
- Chromogenic substrate to detect β-D-glucuronidase- blue coloured medium
- *Escherichia coli* ferments lactose and possess β-D-glucuronidase- Green coloured
- H_2S Detection system – *Salmonella, Citrobacter* imparts black colour to the medium.
- Selective mix inhibits gram positive bacteria.



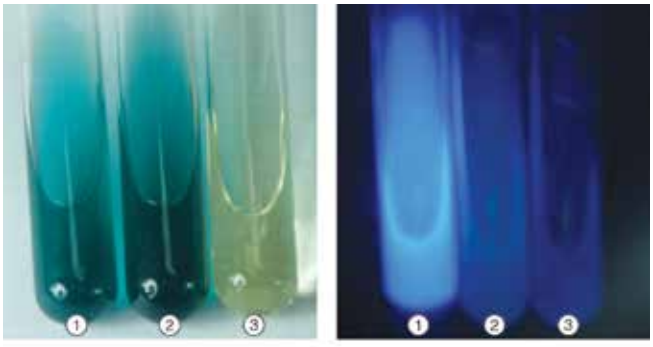
1. Control
2. *Escherichia coli* ATCC 25922 (00013*)
3. *Klebsiella pneumoniae* ATCC (13883) (00097*)
4. *Citrobacter freundii* ATCC 8090
5. *Salmonella* Typhimurium ATCC 14028 (00031*)

Chromogenic and fluorogenic

HiColiform™ Broth Modified M1850

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

- Presence of chromogenic substrate to detect presence of β-galactosidase and MUG to detect β-glucuronidase.
- *E.coli*-blue green, positive β-galactosidase and positive fluorescence under uv (β-glucuronidase positive)
- Other coliforms - blue green, positive β-galactosidase and negative fluorescence under uv
- Sodium lauryl sulphate for selectivity - Gram positive bacteria inhibited



M1850 – HiColiform™ Broth, Modified
1. *Escherichia coli* 2. *Enterobacter aerogenes* 3. Control

HiCrome™ Coliform Broth w/RUG M2073

Recommended for detection of *Escherichia coli* and total coliform in water and food samples by chromogenic and fluorogenic method.

- *E.coli* is the indicator organism in detection of faecal contamination.
- It is detected by chromogenic and fluorogenic method due to the presence of β-glucuronidase.
- ▲RUG is the newly developed fluorogenic substrate by BIOSYNTH which is more specific and sensitive.
- Lower concentrations of RUG is required for detection in comparison to MUG.
- The results with medium containing RUG can be visually detected as bright pink colour is produced due to the release of resorfin.
- It can be also be detected by fluorogenic method.

M2073 HiCrome™ EC Broth w/ RUG
1. *E. coli* ATCC 25922 2. *P. aeruginosa* ATCC 27853
3. *S.* Typhimurium ATCC 14028 4. Control

▲ Resorufin-beta-D-glucuronic acid methyl ester (RUG) is a patent of BIOSYNTH

HiCrome™ PA Broth M1663

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

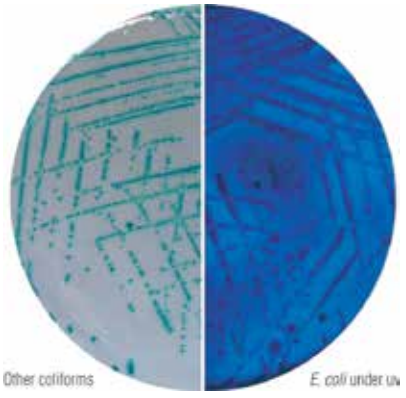
- Presence of ONPG to detect presence or absence of β-galactosidase enzyme and MUG to detect β-glucuronidase enzyme. Lactose is the fermentable carbohydrate.
- *E.coli*-yellow colour, positive ONPG and positive fluorescence
- ONPG Positive - yellow colour
- ONPG Negative - no yellow colour
- MUG Positive - Fluorescence under uv at 366nm
- MUG Negative - No fluorescence under uv at 366nm
- Bile salts mixture for selectivity - Gram positive bacteria inhibited

M1663 — HiCrome™ PA Broth
1. Control 2. *Escherichia coli* 3. *Enterobacter aerogenes*
4. *Klebsiella pneumoniae* 5. *Salmonella* Typhimurium 6. *Proteus mirabilis*
7. *Staphylococcus aureus* 8. *Enterococcus faecalis*

Rapid HiColiform™ Agar/Broth M1465/M1453

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

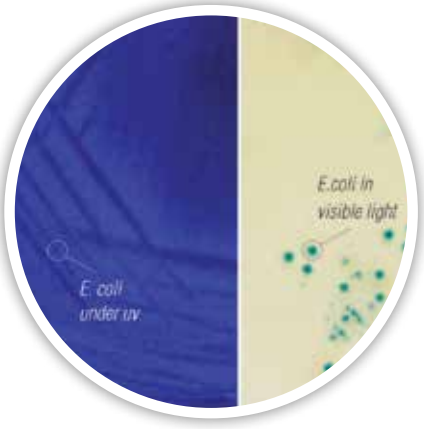
- Presence of chromogenic substrate to detect presence of β-galactosidase and MUG to detect β-glucuronidase
- *E.coli*-blue green, positive β-galactosidase and positive fluorescence under uv (β-glucuronidase positive)
- Other coliforms - blue green, positive β-galactosidase and negative fluorescence under uv
- Confirmation of *E.coli* - Indole positive on addition of Kovacs reagent
- Sodium lauryl sulphate for selectivity - Gram positive bacteria inhibited



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



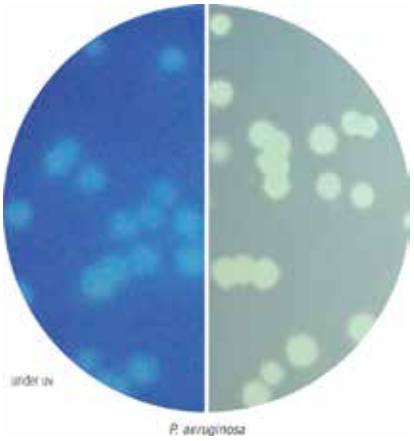
Water Testing

Pseudomonas

HiFluoro™ Pseudomonas Agar Base M1469

Recommended for selective isolation of *Pseudomonas aeruginosa* from water and clinical samples

- Rapid detection in 24-48 hours
- Fluorogenic compound is specifically cleaved by *Pseudomonas* to give fluorescence under uv
- Cetrimide - inhibits accompanying microflora other than *Pseudomonas*
- Salts impart pigmentation



Clostridium

M-CP Agar Base M1354

Recommended by the Directive of the Council of the European Union 98/83/EC for the isolation and enumeration of *Clostridium* species from water sample by membrane filtration

- Medium supports growth in 24-48 hours
- Indoxyl-β-D- glucoside detects -β-D- glucosidase or cellobiase
- Phenolpthalein phosphate detects acid phosphatase on exposure to ammonia fumes
- Bromo cresol purple is indicator dye and sucrose is fermentable carbohydrate
- Selective supplement - inhibits other accompanying microflora

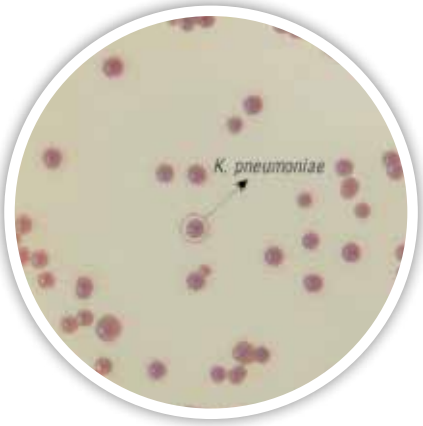
Clostridium perfringens - yellow which turns old rose-rose pink on exposure to ammonia fumes

Klebsiella

HiCrome™ Klebsiella Selective Agar Base M1573

Recommended for the isolation and detection of *Klebsiella* species from water and other sources. Can also be used in membrane filtration

- Medium to support rapid growth in 18-24 hours
- Chromogenic mixture imparts purple-magenta colour to *Klebsiella* species
- Bile salts mixture and Sodium lauryl sulphate - inhibits gram positive organisms
- Selective supplement - inhibits other accompanying microflora

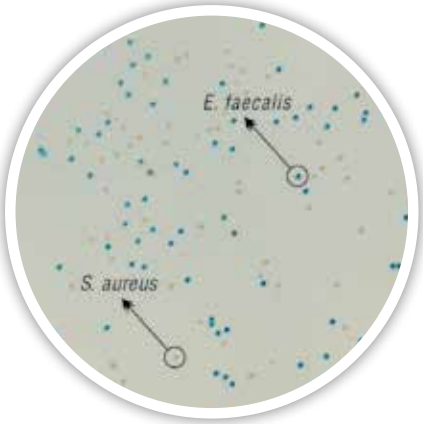


Enterococci

HiCrome™ Rapid HiEnterococci Agar/Broth M1414/M1376

Recommended for the identification and differentiation of Enterococci species from water samples

- Medium to support rapid growth in 18-24 hours
- Chromogenic substrate detects β-glucosidase, imparts blue green colour to *Enterococcus* species
- Sodium azide - inhibits accompanying microflora especially gram negative organisms



Asia
Africa
Australia

HiMedia Laboratories Pvt. Ltd.
www.himedialabs.com

HiMedia is a global brand with network reach spanning over 150 countries across the world.

North America
South America
Europe

OVERSEAS OFFICE
- North America -
HiMedia Laboratories LLC,
507 School House Rd,
Kennet Square 19348,
PA, USA.
Tel : +1-484-734-4401
Fax : +1-484-734-4402
Email : infous@himedialabs.com

- CORPORATE OFFICE -
Plot No. C-40,
Road No. 21Y, MIDC, Wagle Industrial Estate,
Thane (West) - 400604,
Maharashtra, INDIA.
Tel : +91-22-6147 1919 / 6116 9797 / 6903 4800
Fax : +91-22-6147 1920
Email : info@himedialabs.com

OVERSEAS OFFICE
- Europe -
HiMedia Laboratories GmbH,
Marie-Curie-Str. 3, 64683,
Einhausen, Germany.
Tel : +49 6251 989 24 26
Fax : +49 6251 989 24 27
Email : infoeu@himedialabs.com

HIMEDIA®
For Life is Precious

Literature code : TL 436-00/HiCrome Water Testing_01/0718