

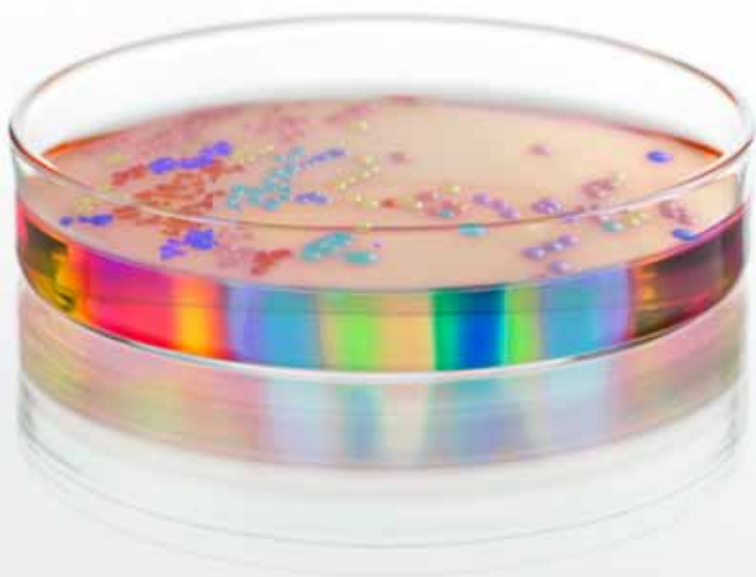
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"Color is my day-long obsession, joy, and torment." - Claude Monet

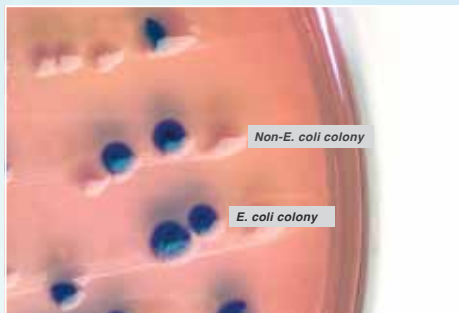
Hardy **CHROM**™

Chromogenic Culture Media

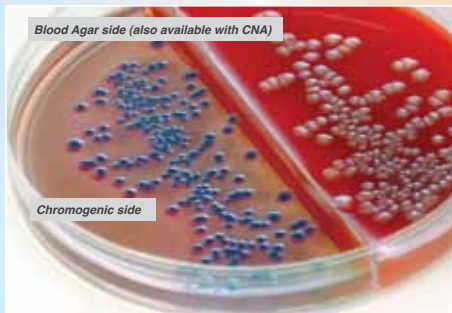


 **HARDY**
DIAGNOSTICS
A Culture of Service™

Hardy **CHROM** BluEcoli™



BluEcoli™ Urine Biplate with mixed culture (chromogenic side shown).



BluEcoli™ Urine Biplate inoculated with a pure *E. coli* culture.

Ordering

Information

15x100mm biplate
BluEcoli™/Blood Agar,
10/pk.....J123

15x100mm biplate
BluEcoli™/CNA,
10/pk.....J116

A revolutionary agar plate for screening urine specimens for *E. coli*.

Inoculate both sides of this biplate with the urine specimen. If the infecting organism is *E. coli*, the colonies on the chromogenic side of the biplate will turn blue.¹

Since 80-90% of all positive urine cultures are *E. coli*, the BluEcoli™ Urine Biplate is a fast, easy, and cost effective way of identifying the majority of your urine culture workload.²

The blue color is confirmatory! No further confirmation or indole testing is required.³

Save time and money by not using an expensive identification system.

With the BluEcoli™ Urine Biplate, you can select a colony from the blood agar side of the biplate for susceptibility testing.

¹ Colonies of the serotype *E. coli* O157, which are not usually associated with urinary tract infections, are an exception, and will not turn blue on the chromogenic side of the BluEcoli™ Urine Biplate.

² Kodaka et al., *Journal of Clinical Microbiology*, Jan. 1995, p.199-201.

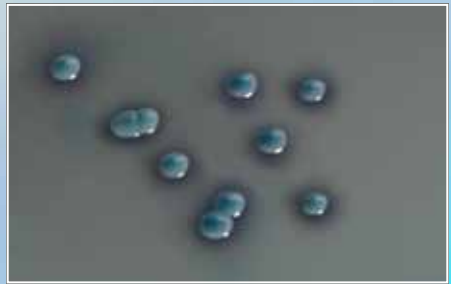
³ The performance of a spot indole test alone is not an adequate screen for *E. coli*, since there are at least 52 species of gram-negative bacilli that grow on MacConkey, are indole-positive and ferment lactose.

BluEcoli™

HardyCHROM™ Candida



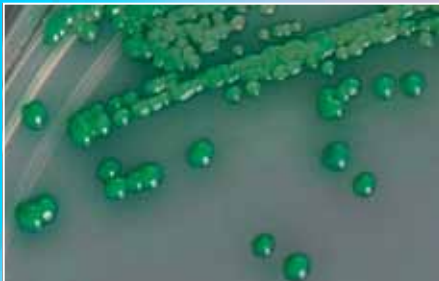
C. glabrata (ATCC® 66032) colonies growing on HardyCHROM™ Candida incubated aerobically for 48 hours at 35 °C.



C. tropicalis (ATCC® 750) colonies growing on HardyCHROM™ Candida incubated aerobically for 48 hours at 35 °C.



C. krusei (ATCC® 14243) colonies growing on HardyCHROM™ Candida incubated aerobically for 48 hours at 35 °C.



C. albicans (ATCC® 10231) colonies growing on HardyCHROM™ Candida incubated aerobically for 48 hours at 35 °C.

HardyCHROM™ Candida is a differential culture medium that facilitates the isolation and differentiation of clinically important yeast species. This medium is especially useful in detecting mixed yeast infections. It allows a complete view of mixed populations of yeasts, while inhibiting the majority of bacterial species. HardyCHROM™ Candida relies on chromogenic substrates to reveal specific enzymes for species differentiation by colony color.

- *C. glabrata* produces smooth pink colonies, often with a darker mauve center.
- *C. tropicalis* produces smooth medium blue to dark metallic blue colonies, with a blue halo.
- *C. krusei* produces large rough or crenated pink to medium pink colonies.
- *C. albicans* produces smooth emerald green to metallic green colonies.

Ordering Information

15x100mm plate,
10/pk.....G301

Candida

HardyCHROM™ ECC

for *E. coli*-Coliforms

HardyCHROM™ ECC (*E. coli*-Coliforms) is a chromogenic medium recommended for the detection, differentiation, and enumeration of *Escherichia coli* and other coliforms in food or water samples based on colony color.

Routine testing to assess the sanitary quality of food and water is directed at the detection and enumeration of indicator organisms rather than pathogens. The coliform group of organisms is recognized as the principal indicator of unsanitary conditions. Coliform organisms are characterized as gram-negative, lactose-fermenting rods. They are present in the intestinal tract of man and other animals, and non-fecal coliforms are found in many areas of the environment, including in soil and on plants. HardyCHROM™ ECC allows for the detection of *E. coli* and other coliforms.

E. coli can be identified as pink to violet colored colonies on the plate, while other coliform bacteria will appear as turquoise colonies. Organisms other than coliforms or *E. coli* (including approximately 4% of *E. coli* strains and most O157 strains) will appear as white or colorless colonies.

HardyCHROM™ ECC contains chromogenic substrates which allow specific microorganisms to be recognized by their colony color. Selective agents have been added to inhibit growth of gram-positive and other non-coliform bacteria.

Ordering Information

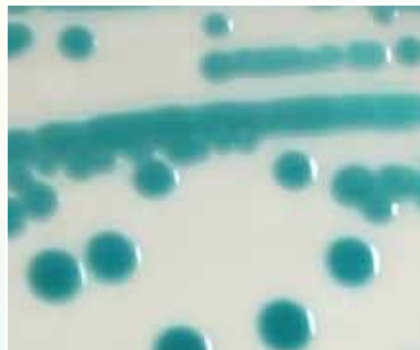
HardyCHROM™ ECC, 15x100mm plate,
10/pk.....G303

HardyCHROM™ ECC Broth, Double Strength,
125ml polycarbonate bottle, 100ml fill,
10/bx.....U236

HardyCHROM™ ECC, contact plate for
environmental surface sampling,
15x60mm contact plate,
10/pk.....P17



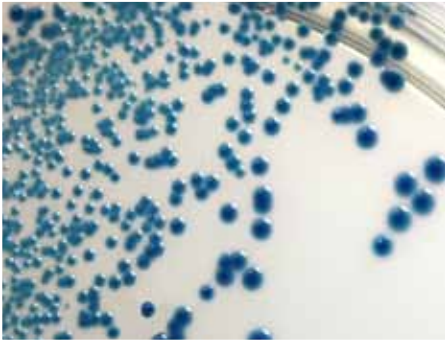
Escherichia coli (ATCC® 25922) colonies growing on HardyCHROM™ ECC incubated aerobically for 24 hours at 35 °C.



Klebsiella pneumoniae (ATCC® 13883) colonies growing on HardyCHROM™ ECC incubated aerobically for 24 hours at 35 °C. Typical of all coliforms.

ECC
for *E. coli*-Coliform

HardyCHROM™ ESBL



ESBL producing *Klebsiella pneumoniae* (ATCC® 700603) colonies growing on HardyCHROM™ ESBL incubated aerobically for 24 hours at 35 °C.



ESBL producing *Escherichia coli* (clinical strain) colonies growing on HardyCHROM™ ESBL incubated aerobically for 24 hours at 35 °C.

Hardy Diagnostics HardyCHROM™ ESBL is a selective chromogenic medium recommended for the primary screening and differentiation of Extended-Spectrum Beta-Lactamase (ESBL) in *Enterobacteriaceae*.

Bacteria are classified as Extended-Spectrum Beta-Lactamase (ESBL) producing bacteria when a simple point mutation occurs in genes normally responsible for beta-lactamase-mediated ampicillin resistance. As a result of the mutation, organisms are able to produce novel beta-lactamases that can hydrolyze aztreonam, extended-spectrum cephalosporins (ceftizoxime, cefotaxime, ceftazidime, ceftriaxone, etc.), and older beta-lactamase drugs.

Escherichia coli produces colonies that are rose to magenta in color, with darker pink centers.

Klebsiella and *Enterobacter* spp. produce large, dark blue colonies.

Citrobacter spp. produce dark blue colonies often with a rose halo in the surrounding media.

Proteus and *Morganella* spp. produce clear to light yellow colonies with golden-orange halo diffused through surrounding media. Additionally, approximately 50% of *Proteus vulgaris* isolates will produce blue-green or green colonies with a golden-orange halo.

HardyCHROM™ ESBL can be used to isolate and differentiate ESBL-producing *Enterobacteriaceae* in 24 hours. A mixture of chromogens permit detection and differentiation of the isolated organisms. Selective agents have been added to inhibit the growth of yeasts, gram-positive organisms, and gram-negative organisms that do not produce extended-spectrum beta-lactamases. Biochemical and antimicrobial susceptibility testing must be performed to confirm identification and Extended-Spectrum Beta-Lactamase production.

Ordering Information

15x100mm plate,

10/pk.....G321



HardyCHROM HUrBi™

HardyCHROM HUrBi™ (HardyCHROM Urine Biplate™) is formulated to assist in characterizing isolates by isolating gram-positive organisms on one side of the biplate and gram-negative organisms on the other side of the biplate. HUrBi™ offers chromogenic culture media to facilitate the detection and differentiation of common urinary tract microorganisms.

• Logical

Total separation of organisms with gram-positive on one side and gram-negative on the other side of the biplate.

• Saves Money

Reduce the need for expensive automated ID cards.

• Confirmatory

Identify *E. coli* and *E. faecalis* with no further testing needed!

• Easy Read-Out

Distinct color reactions for each of the commonly isolated organisms. Facilitates the detection of mixed cultures.

See HardyCHROM™ UTI for color interpretations. The base medium for UTI is similar to HUrBi™.

Ordering Information

15x100mm biplate,
10/pk.....J100

S. aureus

E. faecalis

S. saprophyticus

Gram-Positive

Gram-Negative

E. coli

K. pneumoniae

Gram-Positive Side

- *S. aureus*
- *S. epidermidis*
- *S. saprophyticus*
- *Enterococcus* spp.
- *Candida* spp.
- *Listeria* spp.
- *S. agalactiae*

Gram-Negative Side

- *Proteus*, *Morganella*, and *Providencia* spp.
- *E. coli*
- KES Group (*Klebsiella*, *Enterobacter*, *Serratia* spp.)
- *Citrobacter* spp.
- *Pseudomonas* spp.



Proteus mirabilis

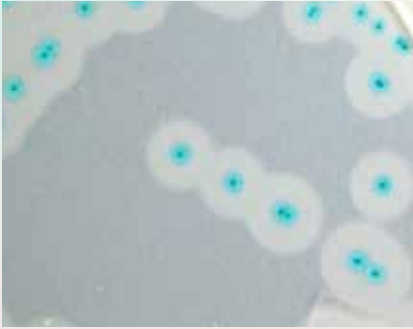


Pseudomonas aeruginosa

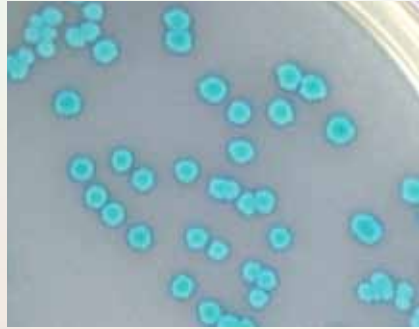
See HardyCHROM™ UTI for more photos, since the color interpretations will be the same.

HUrBi™

HardyCHROM™ Listeria



Listeria monocytogenes (ATCC® 15313) colonies growing on HardyCHROM™ Listeria. (*Listeria ivanovii* will appear the same.)



Listeria innocua (ATCC® 33090) colonies growing on HardyCHROM™ Listeria.

Listeria

HardyCHROM™ Listeria is a chromogenic medium recommended for the selective isolation, differentiation, and enumeration of *Listeria monocytogenes* from food and environmental samples by colony color and appearance.

HardyCHROM™ Listeria contains specific chromogenic substrates that result in all *Listeria* species producing turquoise colored colonies when the substrate is hydrolyzed by specific enzymes. Furthermore, this medium is able to detect the phospholipase activity specific to the two pathogenic *Listeria* species: *L. monocytogenes* and *L. ivanovii*.

These two species will produce turquoise colored colonies surrounded by an opaque white halo. While *L. ivanovii* is rare in clinical samples, further tests are needed to definitively differentiate between these two species. Organisms other than *Listeria* are inhibited or grow as colorless or turquoise colonies without halos.

Ordering Information

15x100mm plate,
10/pk.....G317

HardyCHROM™ MRSA

Now there's an economical choice . . . WITH FASTER RESULTS!

HardyCHROM™ MRSA is a selective and differential chromogenic medium recommended for the qualitative detection of nasal colonization by methicillin-resistant *Staphylococcus aureus* (MRSA) to aid in the prevention and control of MRSA infections in health care settings. The test is performed on anterior nares swabs from patients and healthcare workers to screen for MRSA colonization. HardyCHROM™ MRSA is not intended to diagnose MRSA infection nor to guide or monitor therapy for MRSA infections. Concomitant cultures are necessary for susceptibility testing or epidemiological typing. A negative result does not preclude MRSA nasal colonization.

This new chromogenic medium simplifies identification of MRSA. MRSA strains grown in the presence of chromogenic substrates produce deep pink to magenta colonies.

Selective agents will inhibit non-MRSA strains. Additional ingredients have been added to increase the sensitivity and specificity of the medium by inhibiting gram-negative organisms, yeast, and most other gram-positive cocci. Other bacteria that are methicillin-resistant but not MRSA will either be inhibited (*Staphylococcus epidermidis*) or appear as blue colonies (*Staphylococcus intermedius*).

- Fast results in 16 to 24 hours
- Distinct color change read-out
- Bright color development
- Economically priced - call us for a price comparison!

Ordering Information

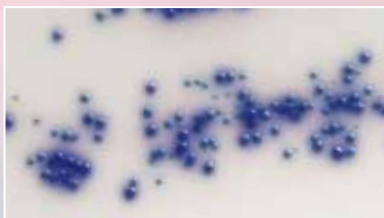
15x100mm plate,
10/pk.....G307



Methicillin-resistant *Staphylococcus aureus* (ATCC® 43300) colonies grown aerobically at 35 °C for 24 hours.

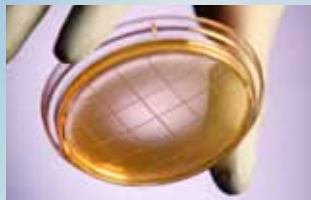


Methicillin-resistant *Staphylococcus aureus* (ATCC® 43300) colonies grown aerobically at 35 °C for 48 hours.



Clinical strain of methicillin-resistant *Staphylococcus intermedius* grown aerobically at 35 °C.

MRSA Contact Plate MRSA Surveillance in Medical Facilities



Note: HardyCHROM™ MRSA Contact Plate is not intended to diagnose MRSA infections nor to guide or monitor therapy.

Ordering Information

15x60mm contact plate,
10/pk.....P14

HardyCHROM™ MRSA Contact Plate is a new selective and differential culture medium that facilitates the isolation and identification of methicillin-resistant *Staphylococcus aureus* (MRSA) from environmental surfaces. This new contact plate contains a chromogenic medium that aids in the prevention and control of MRSA infections in health care settings.

- Results in 16-24 hours
- Easy color change read-out
- Enhance your Infection Control Program
- Free on site training is available

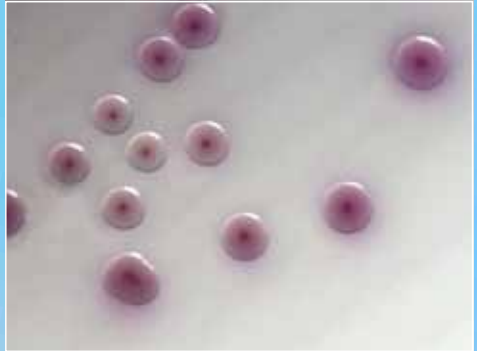
MRSA

HardyCHROM™ O157

HardyCHROM™ O157 is a selective and differential medium recommended for the isolation of enterohemorrhagic *E. coli* O157 from food and environmental sources. Chromogenic substances in the medium facilitate detection by colony color. Not for human diagnostic use.

HardyCHROM™ O157 was developed as a medium for differentiating *E. coli* O157 from non-*E. coli* O157 based on colony color, due to the presence of specific chromogenic substrates. These chromogens are biochemical compounds that produce a visible and qualitative color change when degraded by specific microbial enzymes. *E. coli* O157 produces purple-pink colored colonies on the plate. Organisms other than *E. coli* O157 will be inhibited or appear as blue colonies.

HardyCHROM™ O157 provides an initial screen intended to isolate colonies for further testing. It is necessary to confirm isolated purple-pink colonies taken from HardyCHROM™ O157 with a latex agglutination test (Cat. no. PL070HD), antisera (Cat. no. 295798), or other test methods for complete identification. Testing for the H7 antigen (Cat. no. 221591, 3ml or Cat. no. 295569, 5ml) or verotoxin testing may also be required.



E. coli O157 (ATCC® 35150) produces smooth pink to mauve colonies at 24 hours after aerobic incubation at 35 °C.

Ordering Information

15x100mm plate,
10/pk.....G305

O157

The first and only chromogenic culture medium for *Salmonella* and *Shigella*!

HardyCHROM™ SS is a highly selective chromogenic medium for the primary screening of stools for the isolation and differentiation of *Salmonella* and *Shigella* spp. Non-pathogenic organisms are easily ruled out based on colony color or inhibition.

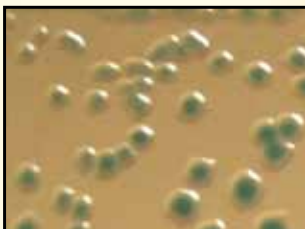
- Reduces costly false-positive work-ups
- Less colony picking, subculturing, and identifications
- Reduces the number of plates for primary stool setup
- Increases specificity
- Effectively rules out most *Proteus* spp. and other non-pathogenic non-lactose fermentors
- Reduce labor and material costs by up to 20% - call for data

Ordering Information

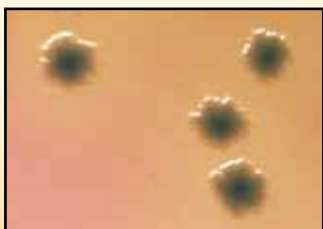
15x100mm plate,
10/pk.....G327



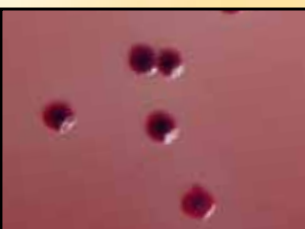
H₂S producing *Salmonella enterica* (ATCC® 14028) incubated aerobically for 24 hours at 35 °C.



Non-*H₂S* producing *Salmonella typhi* (clinical strain) incubated aerobically for 24 hours at 35 °C.



Shigella sonnei (ATCC® 9290) incubated aerobically for 24 hours at 35 °C.



E. coli (ATCC® 25922) incubated aerobically for 24 hours at 35 °C.



Proteus mirabilis (ATCC® 12453) incubated aerobically for 24 hours at 35 °C.



Hafnia alvei (ATCC® 29926) incubated aerobically for 24 hours at 35 °C.

- *H₂S* producing strains of *Salmonella* spp. appear as black centered colonies with a clear edge.
- Non-*H₂S* producing strains of *Salmonella* spp. will produce turquoise colonies.
- *Shigella* spp. will most often produce turquoise colonies. Occasionally the colonies will appear colorless.
- *E. coli* will produce deep pink to magenta colonies.
- *Hafnia alvei* and *E. coli* Alkalescens-Dispar (A-D) will produce small blue colonies.
- *Proteus* spp. will produce pink or brown colonies and may have a black center.

HardyCHROM™ Sakazakii

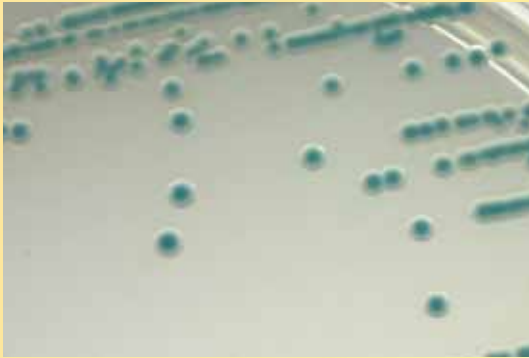
HardyCHROM™ Sakazakii is a chromogenic medium recommended for the selective isolation and differentiation of *Cronobacter (Enterobacter) sakazakii* from other members of the *Enterobacteriaceae* family based on colony color.

C. sakazakii is a gram-negative, rod-shaped opportunistic pathogen associated with a rare, but life-threatening form of meningitis and necrotizing enterocolitis in neonates. The source of infection has been linked to the ingestion of powdered milk-based infant formula intrinsically contaminated by *C. sakazakii*. The organism is both thermotolerant and resistant to desiccation which enables it to survive manufacturing processes.

C. sakazakii produces smooth, turquoise colonies on HardyCHROM™ Sakazakii as a result of unique enzyme interactions with chromogenic substances. Other members of the *Enterobacteriaceae* family will produce white or colorless colonies with or without black centers. All gram-positive bacteria and yeast will be inhibited on this medium.

Ordering Information

15x100mm plate,
10/pk.....G315



Cronobacter sakazakii (ATCC® 29004) colonies growing on HardyCHROM™ Sakazakii incubated aerobically for 24 hours at 35 °C.

Sakazakii

HardyCHROM™ Salmonella

HardyCHROM™ Salmonella is a chromogenic medium recommended for the selective isolation and differentiation of *Salmonella* spp. from other members of the *Enterobacteriaceae* family based on colony color.

Selective agents inhibit the growth of gram-positive organisms. Artificial substrates (chromogens) are broken down by specific microbial enzymes which release insoluble colored compounds.

Salmonella species use only one of the chromogens and will produce deep pink to magenta colored colonies. Bacteria other than *Salmonella* spp. may utilize the other chromogenic substrates and produce blue colonies. If none of the substrates are utilized, natural or white colored colonies will be present. *E. coli* will be partially inhibited.

Salmonella



Salmonella enterica (ATCC® 14028) colonies incubated aerobically for 24 hours at 35 °C. Typical of all *Salmonella* spp.



Escherichia coli (ATCC® 25922) colonies incubated aerobically for 24 hours at 35 °C.

Ordering Information

15x100mm plate,

10/pk.....G309

HardyCHROM™ Staph aureus

HardyCHROM™ Staph aureus allows for the rapid and reliable detection of *Staphylococcus aureus*. This medium contains a special chromogenic mix that allows for the differentiation of *Staphylococcus* spp.

Staphylococcus aureus can be identified as smooth, pink colored colonies on the plate. Other organisms may appear as colorless, blue or cream colonies, or will be inhibited. *Staphylococcus saprophyticus* will appear as turquoise colored colonies. *Staphylococcus epidermidis* will be inhibited.

Staph aureus



Staphylococcus aureus (ATCC® 25923) colonies incubated aerobically for 24 hours at 35 °C.



Staphylococcus saprophyticus (ATCC® 15305) colonies incubated aerobically for 24 hours at 35 °C.

Ordering Information
15x100mm plate,
10/pk.....G311

HardyCHROM™ UTI



E. coli (ATCC® 25922) incubated aerobically for 24 hours at 35 °C.



Enterococcus faecalis (ATCC® 29212) incubated aerobically for 24 hours at 35 °C.



Pseudomonas aeruginosa (ATCC® 27853) incubated aerobically for 24 hours at 35 °C.



Klebsiella pneumoniae (ATCC® 13883) incubated aerobically for 24 hours at 35 °C.



Proteus mirabilis (ATCC® 12453) incubated aerobically for 24 hours at 35 °C.



S. saprophyticus (ATCC® 15305) incubated aerobically for 24 hours at 35 °C.



S. aureus (ATCC® 25923) incubated aerobically for 24 hours at 35 °C.

HardyCHROM™ UTI is a chromogenic culture medium that facilitates the isolation and differentiation of urinary tract pathogens, including gram-negative and gram-positive bacteria. The development of various colors, due to chromogenic substances in the medium, allows for the differentiation of microorganisms from the primary set-up of a urine specimen. HardyCHROM™ UTI can be used to differentiate *E. coli* and *Enterococcus* spp., with no further testing needed, based on their characteristic color reactions.

- *E. coli* produces medium rose to magenta colored colonies.
- *Enterococcus faecalis* produces small, teal to turquoise colored colonies.
- *Pseudomonas* spp. produce colorless to light yellow-green translucent colonies.
- *Klebsiella*, *Enterobacter*, and *Serratia* spp. produce large deep blue to dark indigo colonies.
- *Proteus*, *Morganella*, and *Providencia* spp. produce clear to light yellow colonies with a diffuse golden-orange halo in the medium.
- *S. saprophyticus* produces opaque, pink colored colonies.
- *S. aureus* produces opaque, cream to white colored colonies.



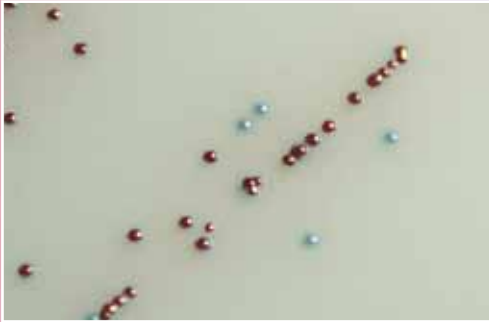
Ordering Information

15x100mm biplate,
Blood Agar/UTI,
10/pk.....J119
30ml fill, 86x128mm
rectangular omniplate,
10/pk.....G354

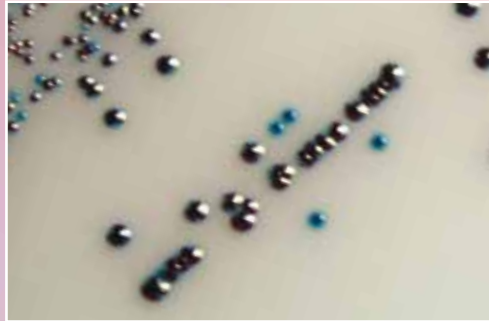
18ml fill, 15x100mm plate,
10/pk.....G313
100/pk.....G313BX

HardyCHROM™ VRE

Fast Detection and Differentiation of Vancomycin-Resistant Enterococci!



VRE *E. faecalis* (red) and *E. faecium* (blue), 24 hours.



VRE *E. faecalis* (red) and *E. faecium* (blue), 48 hours.

Contact Plate for Environmental Monitoring
Facilitates sampling of environmental surfaces to aid in the prevention and control of VRE infections in health care settings.

Available in two formats:

15x100mm plate,
10/pk.....G333

Contact Plate for Environmental Monitoring
15x60mm contact plate,
10/pk.....P19

HardyCHROM™ VRE is a primary screening medium for the simultaneous detection and differentiation of vancomycin-resistant enterococci (VRE), such as *Enterococcus faecalis* and *E. faecium*, from fecal and rectal cultures. HardyCHROM™ VRE uses chromogenic reactions to differentiate between *E. faecalis* and *E. faecium* while traditional media, such as Bile Esculin Azide (BEA) agar with vancomycin, cannot differentiate between these two species. Selective agents are included to inhibit yeast, gram-negative bacteria, non-*Enterococcus* gram-positive bacteria, and intrinsically vancomycin-resistant *E. casseliflavus* and *E. gallinarum*.

- **Rapid Screening for VRE**
Isolates organisms directly from patient specimen within 24 hours
- **Easy-to-read Color Reactions**
Bright colonies are seen easily against opaque background
- **Chromogenic Differentiation**
Clearly distinguishes between *Enterococcus faecalis* (red with a metallic sheen) and *Enterococcus faecium* (blue)
- **Inhibition of Intrinsically Resistant Enterococci**
False-positives are avoided by inhibiting *E. casseliflavus* and *E. gallinarum*
- **Highly Selective Medium**
Inhibits most other bacteria and yeast





A Culture of Service™

1430 West McCoy Lane
Santa Maria, CA 93455

"Color is my day-long obsession, joy, and torment." - Claude Monet

Hardy**CHROM**TM

WWW.HARDYDIAGNOSTICS.COM | 1-800-266-2222 | SALES@HARDYDIAGNOSTICS.COM