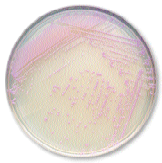
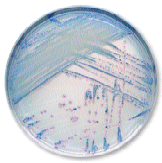
BD

Helping all people live healthy lives

BBL™ CHROMagar™ Family of Products

Delivering Efficiency in Living Color

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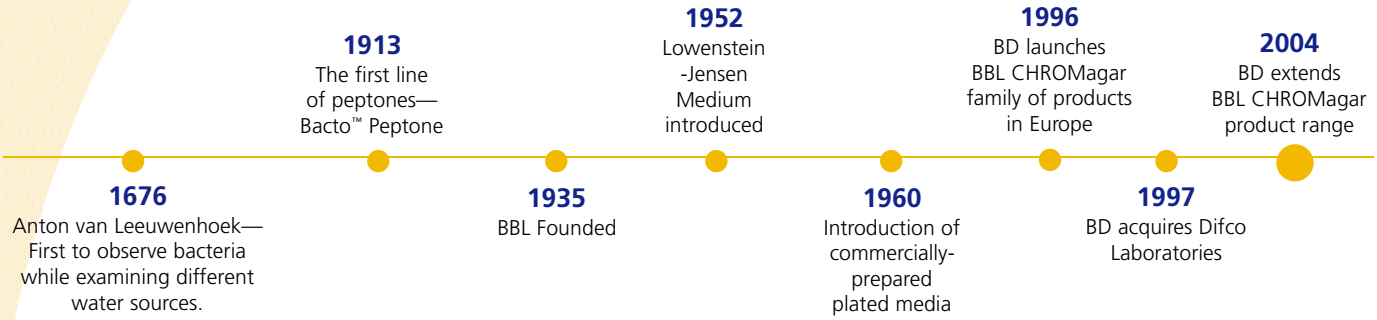
Enhanced Differentiation of Pathogens, Reduced Material Usage, Reduced Costs - the Exclusive BBL™ CHROMagar™ Family of Media Products

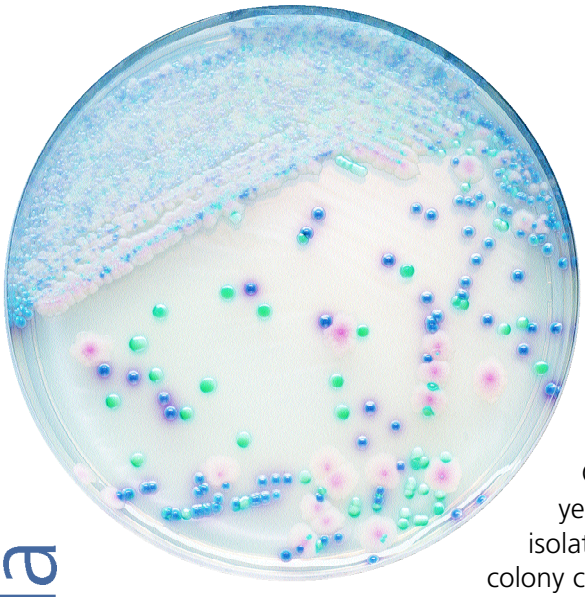


BD Diagnostics has been manufacturing BBL prepared media products for over 40 years. In that time we have gained a wealth of knowledge that remains the cornerstone of the high quality BBL brand. From the first introduction of Thioglycollate medium and proprietary peptones such as Trypticase™, to the development of media products such as Mycobactosel™ L-J, all the way to our patented Stacker™ Petri dish designs and formulations, like GC-Lect™ and ssA™, our history as leaders in microbiology is without equal. These are just a few of the many great milestones that BD Diagnostics and BBL can point to with pride.

With this in mind, we are very excited to present to you the latest innovative product line to join the BBL family: BBL™ CHROMagar™ media. BBL CHROMagar products are designed to streamline identifications, provide enhanced differentiation of pathogens and allow microbiologists to realize material and labor reductions in the laboratory. This highly differentiated product family combines the patented CHROMagar technology for organism identification with the high quality BBL proprietary peptones and media ingredients that microbiologists have counted on for over 40 years. This combination provides a cost-effective solution for streamlining identifications and workflow in the microbiology laboratory.

The purpose of this brochure is to provide information on all the available BBL CHROMagar media formulations and describe colonial morphology on those plates. We are very excited about the potential for streamlined workflow and cost savings that BBL CHROMagar media can bring to your lab. Stay tuned because there are many more formulations to come.

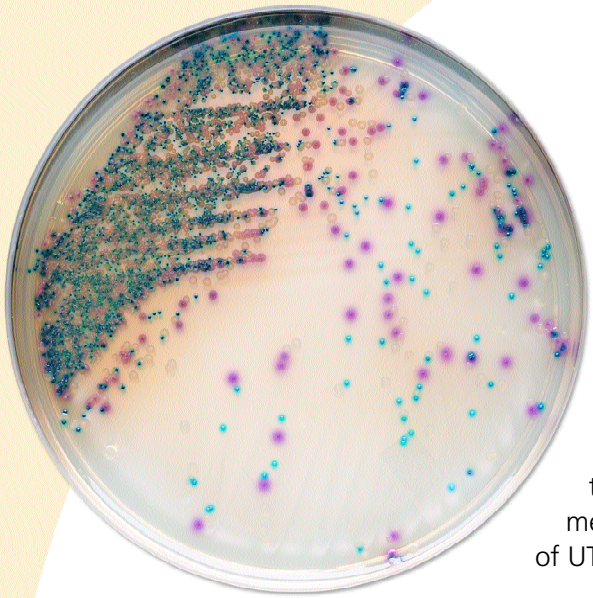
BBL CHROMagar Candida



BBL™ CHROMagar™ Candida is a nutritive medium for isolating and differentiating yeasts from primary culture of clinical specimens. BBL CHROMagar Candida has gained wide acceptance through the years by many leading mycologists. BBL CHROMagar Candida differentiates selected yeasts by color morphology, most other yeast isolates will appear in their natural white/cream colony color. This ability to isolate, identify and differentiate mixed yeast cultures has provided many microbiology laboratories the opportunity to operate more cost effectively. Additional benefits:

- Allows for identification of three of the most commonly isolated clinical yeasts, *C. albicans*, *C. tropicalis* and *C. krusei*.
- Decreases turnaround time for yeast isolates by up to 48 hours when used as a primary plate.
- Inhibits normal bacterial flora (using chloramphenicol) making it an ideal medium for primary yeast culture of urine, genital and throat samples.
- Reduces the amount of yeast identification panels used in the lab, thereby increasing workflow efficiency and lowering overall costs of yeast workup.
- Differentiates mixed yeast isolates from clinical specimens allowing for more-rapid-result turnaround time.

Cat. No.	Description	Unit
254093	BBL™ CHROMagar™ Candida	20 Plates
254106	BBL™ CHROMagar™ Candida	120 Plates



Decrease Result Turnaround Time and Reduce Labor Costs and Material Expenses.

BBL™ CHROMagar™ Orientation medium is a non-selective, differential medium for presumptively identifying bacterial isolates from primary clinical specimens. Specially selected peptones supply the nutrients in BBL CHROMagar Orientation medium. Clinical studies have demonstrated that CHROMagar Orientation medium is an ideal medium for use in differentiation and enumeration of UTI pathogens.

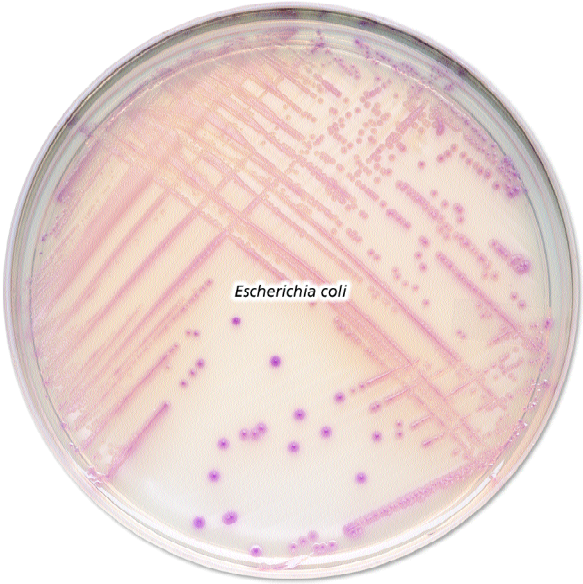
- Identifies *E. coli* and *Enterococcus* from the primary plate—confirmatory testing is not required. Immediately resolves approximately 80% of positive urines.[1]
- Provides presumptive identification of *Staphylococcus saprophyticus* for more efficient screening of suspect urine samples.
- Allows isolation and presumptive identification of both gram-positive and gram-negative pathogens with a single plate.
- Increases laboratory efficiency and decreases material costs 50-75% by reducing the number of plates to inoculate, incubate and read.
- Inhibits the swarming of *Proteus* spp. with a unique BBL formulation.
- Enhances visual differentiation of colonies, resulting in less time spent subculturing mixed infections. Allows for earlier set up of susceptibility testing.
- Improves detection of mixed urine cultures for quicker assessment of contaminated samples.

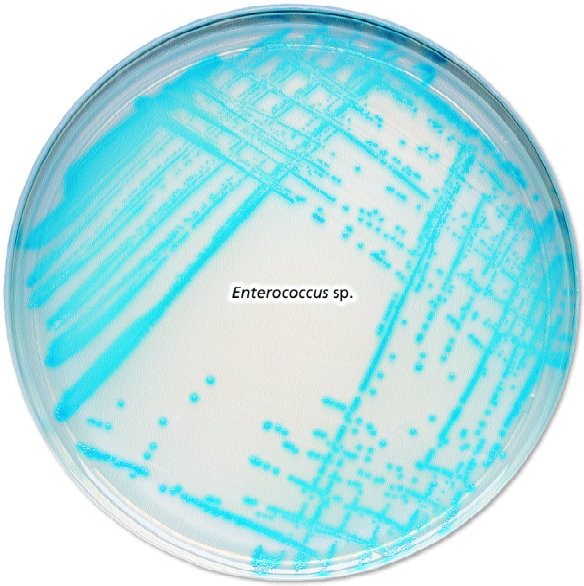
Cat. No.	Description	Unit
254102	BBL™ CHROMagar™ Orientation	20 Plates
254107	BBL™ CHROMagar™ Orientation	120 Plates

[1] In accordance with NCCLS document M35. Abbreviated Identification of Bacteria and Yeast—Approved guideline.

BBL CHROMagar Orientation

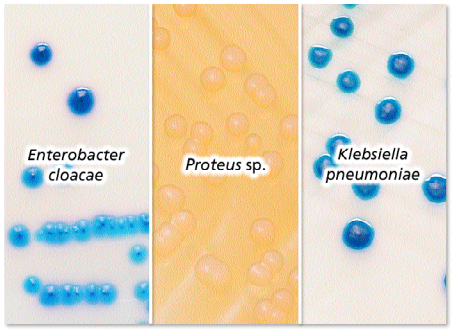
See mixed cultures in living color. Detect contaminated specimens and mixed infections quickly and easily to decrease workup time.

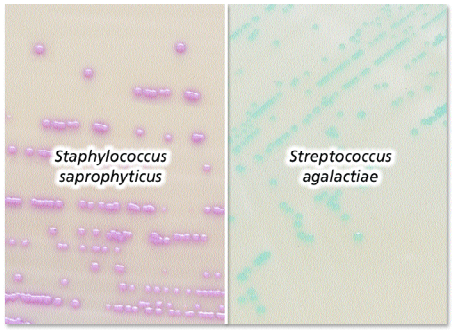


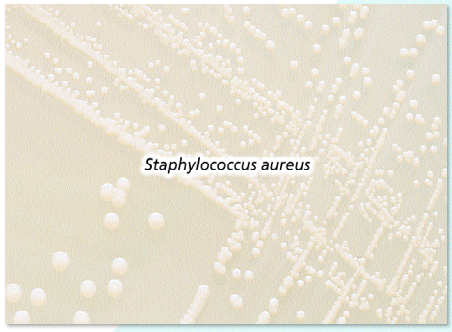


Identify *E. coli* and *Enterococcus* sp. from the primary plate—confirmatory testing is not required.[1] These two organisms represent approximately 80% of urinary tract infections.

[1] In accordance with NCCLS document M35. Abbreviated Identification of Bacteria and Yeast—Approved guideline.







Differentiation and presumptive identification of *S. saprophyticus* and *S. agalactiae* enable more streamlined screening of female urine cultures.

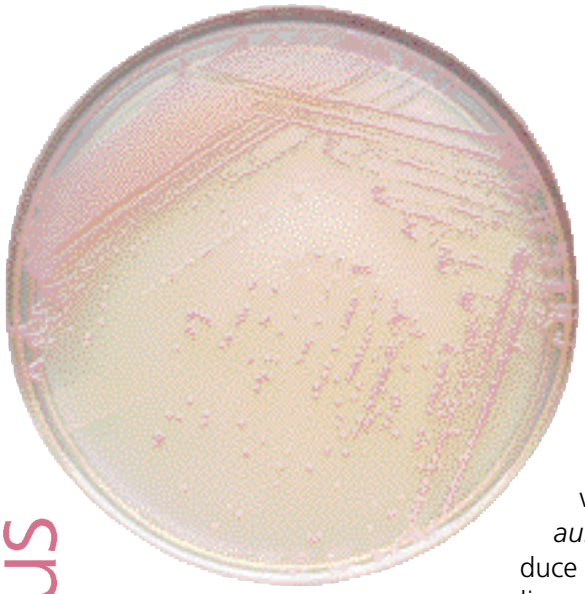
BBL™ CHROMagar™ Orientation Gram Positives and Gram Negatives in Living Color*

Organism	Total no. of isolates	No. (%) of isolates with described color	Description of pigment and/or morphology of colonies
Escherichia coli	**429**	**425 (99)** **4 (1)**	**pink** **beige**
***Enterococcus* spp.**	**213**	**213 (100)**	**blue or turquoise, small**
Staphylococcus saprophyticus	**6**	**6 (100)**	**pink opaque**
Streptococcus agalactiae	**36**	**36 (100)**	**light blue, pin-like**
***Citrobacter* spp.**	**16**	**14 (87.5)** **2 (22.5)**	**metallic blue with or without pink halo** **pink**
***Enterobacter* spp.**	**17**	**17 (100)**	**metallic blue with or without pink halo**
Klebsiella	**96**	**96 (100)**	**metallic blue with or without pink halo**
Morganella morganii	**7**	**7 (100)**	**colorless to beige with brown halo**
Proteus mirabilis	**61**	**61 (100)**	**beige with brown halo**
Proteus vulgaris	**5**	**3 (60)** **2 (40)**	**beige with brown halo** **blue-green with brown halo**
***Providencia* spp.**	**16**	**16 (100)**	**beige with brown halo**
Acinetobacter spp.	2	2 (100)	beige
Candida spp.	31	31 (100)	white, creamy, convex
Hafnia alvei	3	2 (66.7) 1 (33.3)	beige pink with blue halo
Pseudomonas spp.	57	53 (93) 4 (7)	transparent, yellow to green serrated edge, diffused beige with or without green halo
Salmonella spp.	1	1 (100)	beige
Serratia marcescens	6	6 (100)	blue-green
Staphylococcus spp.	19	19 (100)	golden opaque, white, pink

* Piccoli, P., P. Ricordi, M. Scagnelli, and C. Scarparo. 2002. Comparative evaluation of two commercial chromogenic media for detection and presumptive identification of urinary tract pathogens. European Journal of Clinical Microbiology and Infectious Disease. *21*:287.

BBL CHROMagar Orientation

BBL CHROMagar Staph aureus



BBL™ CHROMagar™ Staph aureus is a chromo-genic medium which utilizes an enzymatic reaction that produces easy-to-identify mauve-colored colonies with the growth of *Staphylococcus aureus*. Other staphylococcal isolates produce cream-colored to white colonies on this medium. Traditionally, *S. aureus* isolates have been identified using Mannitol Salt agar to determine mannitol fermentation and TSA II Sheep Blood Agar to exhibit a zone of beta hemolysis. BBL CHROMagar Staph aureus is designed for use as a primary plate when testing for *S. aureus* in clinical or industrial specimens. BBL CHROMagar Staph aureus is highly effective in differentiating organisms with atypical appearance or weak hemolysis making it an ideal medium for *Staphylococcus* surveillance.[1] Additional benefits include:

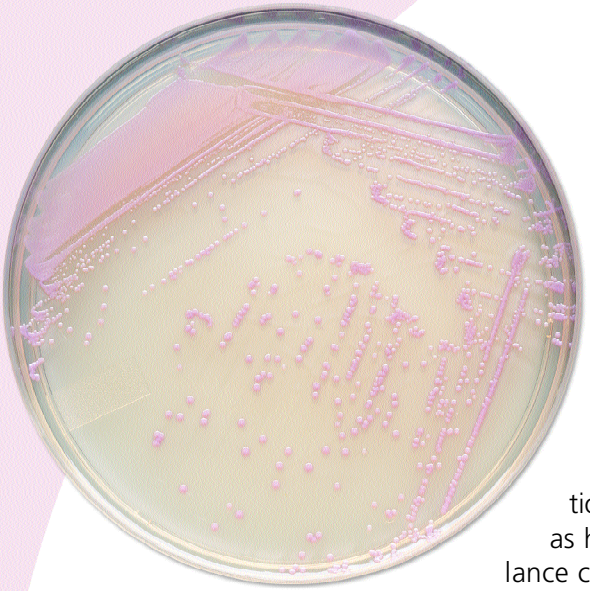
- Isolates and identifies *Staphylococcus aureus* from clinical sources without the use of confirmatory testing.[2]
- Shows increased recovery by 11% when compared to Mannitol Salt Agar, as demonstrated in a recent clinical study.[1]
- Allows for performance of susceptibility testing directly from the medium, reducing turnaround time and saving valuable tech time.
- Eliminates the need for subculture to a nonselective medium, reducing consumable material costs and improving workflow.
- Sensitivity 99.5%
- Specificity 99.2%

Cat. No.	Description	Unit
257074	BBL™ CHROMagar™ Staph aureus	20 Plates
257099	BBL™ CHROMagar™ Staph aureus	120 Plates

[1] 2003 ASM poster C-324. Lema et al., The Johns Hopkins Medical Institutions. Comparison of CHROMagar™ Staph aureus to conventional media for the detection of methicillin susceptible and methicillin resistant *Staphylococcus aureus* in clinical respiratory samples.

[2] In accordance with NCCLS document M35. Abbreviated Identification of Bacteria and Yeast—Approved guideline.

BBL CHROMagar MRSA



The prevalence of nosocomial infections caused by methicillin-resistant *Staphylococcus aureus* (MRSA) has been increasing for several years. Recent NNIS (National Nosocomial Infections Surveillance) data indicates that, in the intensive care patient setting, the proportion of MRSA among *S. aureus* infections was as high as 60% in 2003[1]. Use of active surveillance cultures to identify colonized patients is an important part of any infection control strategy.

BBL CHROMagar MRSA is a selective and differential medium primarily used for the qualitative and direct detection of colonization by methicillin resistant *Staphylococcus aureus* (MRSA) to aid in the prevention and control of MRSA infections in healthcare settings. The test is performed on anterior nares, skin and throat specimens. The medium may also be used for the detection of MRSA from clinical specimens.

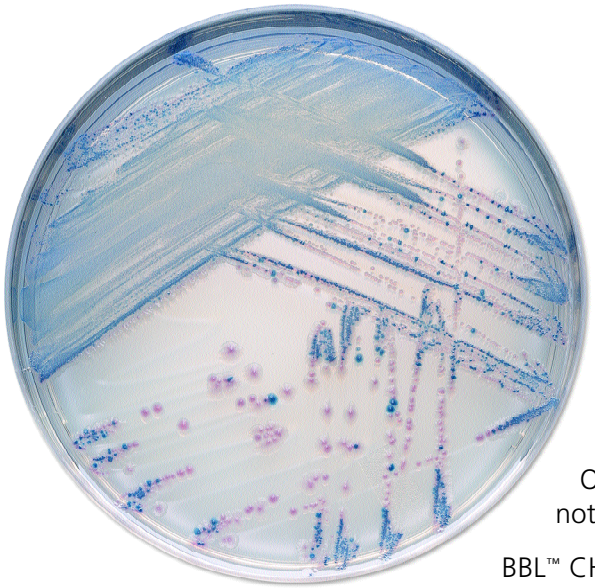
The introduction of BBL CHROMagar MRSA provides laboratorians with many benefits compared to traditional MRSA screening algorithms:

- Unique combination of chromogenic substrates and a cephalosporin to provide a familiar and simple method to perform MRSA testing
- Rapid results—direct detection and identification of most MRSA in as little as 24 hours without confirmatory testing[2]
- 96% agreement of MRSA and 97% agreement of MSSA compared to *mec*A PCR[3]
- Greater recovery—8% greater recovery than traditional screening algorithms
- Fewer total coagulase and latex tests performed saves money
- Reduces the number of susceptibility tests performed on non-MRSA isolates
- Less labor required than traditional MRSA algorithms—which use multiple plates and reagents

Cat. No.	Description	Unit
257308	BBL™ CHROMagar™ MRSA	20 Plates

1 MRSA-Methicillin Resistant *S. aureus*:Fact Sheet. CDC Website, http://www.cdc.gov/ncidod/hip/ARESIST/MRSAFAQ.htm
2 BD Data on File, mauve colonies at 48 hours require a confirmatory coagulase test.
3 BD Data on File.

BBL CHROMagar O157



Escherichia coli serotype O157:H7 is a human pathogen associated with hemorrhagic colitis. Traditionally, this organism has been differentiated from its nonpathogenic counterparts using media containing sorbitol. *E. coli* O157:H7 will ferment sorbitol slowly, or not at all.

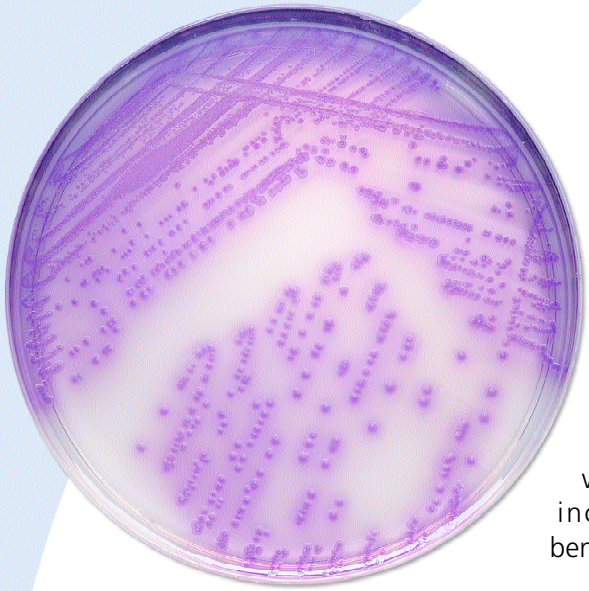
BBL™ CHROMagar™ O157 was developed to meet the needs of microbiologists requiring a better medium for isolation and differentiation of *E. coli* O157. This medium has been designed for use as a primary plate for stool cultures and is an ideal medium for screening food samples for *E. coli* O157. BBL CHROMagar O157 provides additional benefits:

- Detects *E. coli* O157 using a highly specific chromogenic reaction, limiting false results associated with detection of *E. coli* O157 by sorbitol fermentation.
- Distinguishes *E. coli* O157 (mauve colonies) from *E. coli* non-O157 (blue colonies) with a color reaction for clearer differentiation of toxigenic strains.
- Reduces costs of subculturing, biochemical identification and latex testing of false-positive organisms isolated from MacConkey Agar with Sorbitol and SMAC CT media.[1]
- Inhibits most *Proteus*, *Pseudomonas* and *Aeromonas* strains using specialized selective agents.
- Is compatible with latex agglutination testing for confirmation.
- Provides more efficient use of technologist time when screening stool cultures.

Cat. No.	Description	Unit
254105	BBL™ CHROMagar™ O157	20 Plates

[1] Data on file, BD Diagnostics.

BBL CHROMagar Salmonella



BBL™ CHROMagar™ Salmonella was developed for use in *Salmonella* screening of either clinical or industrial samples. BBL CHROMagar Salmonella can be used with or without pre-enrichment broth media. As with any *Salmonella* isolation procedure, pre-enrichment with a broth (i.e., Selenite F or GN Broth) will increase recovery of *Salmonella* spp. Additional benefits of BBL CHROMagar Salmonella are:

- Detects *Salmonella* with a highly specific chromogenic reaction, minimizing interference from hydrogen sulfide (H_2S)-producing colonies such as *Proteus* and *Citrobacter* spp. This reaction results in a significant reduction of false positives.
- Reduces consumable costs associated with biochemical identification and agglutination testing of false-positive isolates.
- Allows for serotyping and slide agglutination directly from the plate for more efficient use of technologists' time.
- Differentiates low levels of *Salmonella* in cultures containing mixed coliform bacteria, which helps to streamline detection of pathogenic organisms.
- Reduces the time needed for confirmatory biochemical and serological tests by up to one day as compared to Hektoen Enteric Agar.

Cat. No.	Description	Unit
254104	BBL™ CHROMagar™ Salmonella	20 Plates

BBL CHROMagar Proof Sources

Baqui, A., T. Brenner, W. Falkler, JR., M. Jabra-Rizk, T. Meiller, W. Merz and M. Romagnoli. 2001. Evaluation of a reformulated CHROMagar Candida.
Journal of Clinical Microbiology. *39*:2015-2016.

Eigner, U., A. Fahr, R. Hammann and R. Reissbrodt. 2001. Evaluation of a new chromogenic medium for the isolation and presumptive identification of *Salmonella* species from stool specimens.
European Journal of Clinical Microbiology Infectious Disease. *20*:558:565.

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Journal of Clinical Microbiology. *35*:2773-2777.

Piccoli, P., P. Ricordi, M. Scagnelli, and C. Scarparo. 2002. Comparative evaluation of two commercial chromogenic media for detection and presumptive identification of urinary tract pathogens.
European Journal of Clinical Microbiology and Infectious Disease. *21*:283-289.

2003 ASM poster C-324. Lema et al., The Johns Hopkins Medical Institutions. Comparison of CHROMagar Staph aureus to conventional media for the detection of methicillin susceptible and methicillin resistant *Staphylococcus aureus* in clinical respiratory samples.

2003 ASM poster C-330. D'Souza and Baron, Stanford University Medical School. Practical bench comparison of BBL CHROMagar Orientation and standard 2-plate media for urine cultures.

2003 ICAAC poster D-1681. D'Souza and Baron, Stanford University Medical School. BBL CHROMagar Staph aureus is superior to mannitol salt for detection of *Staphylococcus aureus* in complex mixed infections.

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