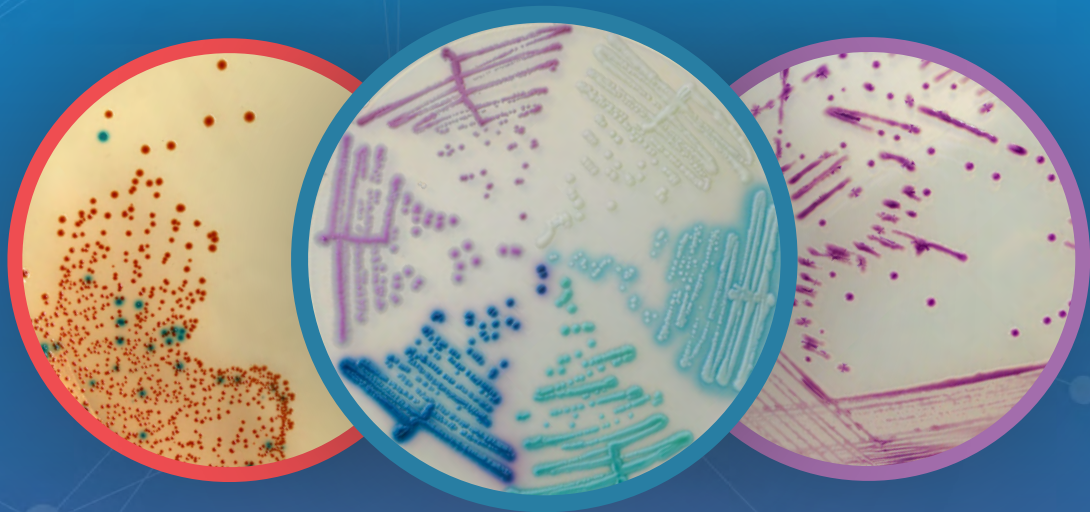


● **Species** Differentiation

Dehydrated Media ●

● **Cost Efficient**

The Widest Range of Chromogenic Media For Colourful Microbial Detection



Worldwide Recognition ●

● **Intense Colours**

CHROMagar™
The Chromogenic Media Pioneer

Pioneer

in Chromogenic media

since 1979

The first chromogenic culture medium (for detection of *E. coli*) was invented and patented by Dr. A. Rambach in 1979. The introduction of this medium triggered a revolution in microbial diagnosis driven by the introduction of a whole range of media for the detection of key clinical & food borne pathogens.

The use of chromogenic culture media for the detection of bacteria is increasing steadily despite the introduction of other (often molecular biology based) techniques.

What is chromogenic technology applied to culture media?

It is colouring the developing bacterial colonies with distinctive colours in order to allow an easier differentiation of the growing micro-organism. Dr A. Rambach developed and patented the use, in microbiology, of a technology based on a soluble colourless molecule (called chromogen) which was composed of a substrate, targeting a specific enzymatic activity and a chromophore.

When the colourless chromogenic conjugate is cleaved by an enzyme of the target organism, the chromophore is released. In its unconjugated form the chromogen exhibits its distinctive colour and, due to reduced solubility forms a precipitate. The result is a very specific & distinctive colour-based differentiation, which is clearly distinguishable to the naked eye under normal lighting conditions.

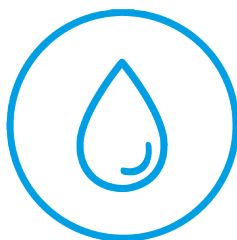
4 fields of application



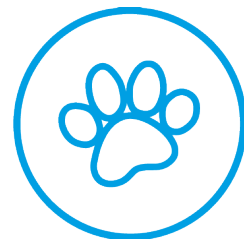
Clinical Microbiology



Food Industry



Water Testing



Veterinary Microbiology

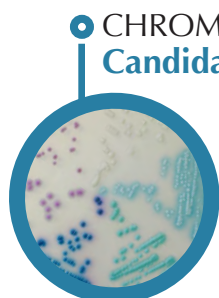




Clinical Microbiology

Clinical microbiologists are concerned by bacterial infections in humans and have to perform a wide range of clinical laboratory tests on various kind of specimens. Among the current critical challenges, medical biologists need to obtain precise species identification of organisms in a timely manner.

CHROMagar™ has developed the widest range of chromogenic culture media solutions to help in the detection and the surveillance of key clinical pathogens or drug resistant bacteria.



CHROMagar™ Candida Plus

Plate Reading

- *Candida auris*
→ Light blue with blue halo
- *Candida albicans*
→ Green-blue
- *Candida tropicalis*
→ Metallic blue with pink halo

Product code:
CA242: 5 L pack
CA243-25: 25 L pack

First chromogenic medium differentiating
Candida auris

For detection and differentiation of major clinical *Candida* species including *C. auris*

100 % Sensitivity/ Specificity⁽¹⁾

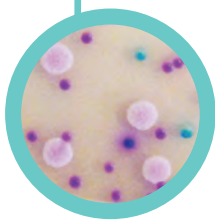
Candida yeast species are involved in various infections called candidiasis, which can affect the respiratory digestive and urogenital tracts and even damaged skin. Recently, ***C. auris* has emerged among the causative agents** due to their resistance to the antifungal agent fluconazole.

Based on our best-seller CHROMagar™ Candida, CHROMagar™ Candida Plus is the first chromogenic medium designed to detect and differentiate *C. auris*, as well as the major clinical *Candida* species.

⁽¹⁾ Mulet Bayona *et al.*, 2020. Diagn. Micr. Infect. Dis.



CHROMagar™ Candida



Product code:
CA222: 5 L pack
CA223-25: 25 L pack

Plate Reading

- *Candida albicans*
→ Green
- *Candida tropicalis*
→ Metallic blue
- *Candida krusei*
→ Pink, fuzzy

For isolation and differentiation of major clinical-significant *Candida* species

≥ 99 % Sensitivity/ > 98 % Specificity⁽²⁾

Yeasts are increasingly important pathogens, particularly for immuno-depressed people such as the elderly, AIDS victims, etc. CHROMagar™ Candida will not only allow the growth and detection of yeasts (like traditional Sabouraud Agar) but **will also instantly allow you to differentiate various *Candida* species** solely by the colour of the colony. CHROMagar™ Candida gives a powerful and easy detection of mixed yeast cultures and in some cases antifungal resistant strains present in the samples may appear even as a minor population.



⁽²⁾ Odds & Bernaerts, 1994. J. Clin. Microbiol.

CHROMagar™ Orientation



Product code
RT412: 5 L pack
RT413-25: 25 L pack

Plate Reading

- *E. coli*
→ Dark pink to reddish
- *Klebsiella*, *Enterobacter*,
Serratia
→ Metallic blue
- *Citrobacter*
→ Metallic blue with red halo
- *Proteus*
→ Brown halo
- *S. aureus*
→ Golden, opaque, small
- *S. saprophyticus*
→ Pink, opaque, small
- *Enterococcus*
→ Turquoise blue

For isolation and differentiation of urinary tract pathogens

99 % Sensitivity for *E. coli*⁽³⁾

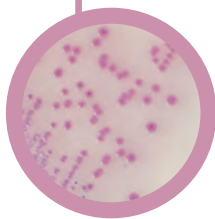
The major target of this medium is the detection of urinary tract pathogens with *E. coli* as red colonies, *Klebsiella* as metallic blue colonies, *P. mirabilis* as clear with brown halo colonies, etc.

However, CHROMagar™ Orientation has a broader application as a general nutrient agar for the isolation of various microorganisms. For instance, CHROMagar™ Orientation can be used to differentiate various microorganisms in other infected areas; e.g. scars. CHROMagar™ Orientation is **useful when supplemented with various antibiotics in detecting increasingly important nosocomial and multiple resistant microorganisms.**



⁽³⁾ Merlino et al., 1996. J. Clin. Microbiol.

CHROMagar™ Salmonella



Product code
SA132: 5 L pack
SA133-25: 25 L pack

Plate Reading

- *Salmonella*
including *S. typhi*
→ Mauve
- Other bacteria
→ Blue, colourless
or inhibited

For detection and isolation of *Salmonella*

95 % Sensitivity⁽⁴⁾

89 % Specificity⁽⁴⁾ compared to 78 % with Hektoen Agar

Conventional media for the detection of *Salmonella* by H2S character have very poor specificity resulting in numerous false positives (*Citrobacter*, *Proteus*, etc.) among the rare, real positive *Salmonella*. The workload for unnecessary examination of suspect colonies is so heavy that real positive *Salmonella* colonies might often be overlooked in routine testing. Because of their poor specificity, conventional media require a tedious examination of at least 10 colonies per suspected sample. On the contrary, CHROMagar™ Salmonella eliminates most of those false positives and allows technicians to focus on the real contaminated samples.



⁽⁴⁾ Gaillot et al., 1999. J. Clin. Microbiol.

CHROMagar™ C.difficile



Product code
CD122: 5 L pack

Plate Reading

- *C. difficile*
→ Colourless and fluorescent
under UV light at 365 nm
- Other bacteria
→ Colourless, non fluorescent or
inhibited

For isolation and direct differentiation of *Clostridium difficile*

95 % Sensitivity/ 88 % Specificity⁽⁸⁾

Clostridium difficile is the leading cause of nosocomial infectious diarrhea in adults, mostly in patients who have both medical care and antibiotic treatment.

Although PCR has become the leading *C. difficile* detection technique, culture is essential for strain typing and antimicrobial susceptibility testing. CHROMagar™ C. difficile is a **new fluorogenic culture medium, extremely sensitive and selective**, especially designed to simplify and speed up (24 h) the culture of *C. difficile*.



⁽⁸⁾ Roux et al.(Gaillot), 2014. ASM General meeting

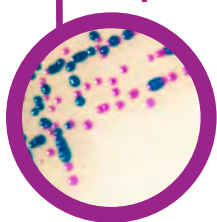
LIM RambaQUICK™ StrepB



Product code:
LB082: 5 L pack



CHROMagar™ StrepB*



Product code
SB282: 5 L pack
SB283-25: 25 L pack

Plate Reading

- Group B *Streptococcus*
→ Mauve
- Other microorganisms
→ Blue, colourless or inhibited

For selective enrichment broth for Group B *Streptococcus* (GBS) screening



For isolation and differentiation of *Streptococcus agalactiae* (GBS)

94 % Sensitivity/ 100 % Specificity⁽⁵⁾

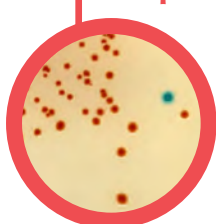
Group B *Streptococcus* (GBS) has been associated with severe neonatal infections such as septicaemia and meningitis. The detection of vaginal colonisation by GBS in pregnant women is the most effective strategy to prevent neonatal infections. LIM RambaQUICK™ StrepB Method is a powerful screening tool, which combines a selective enrichment broth with a highly specific and sensitive medium, allowing **detection of GBS (haemolytic as well as non-haemolytic)** while inhibiting the *Enterococci*.

⁽⁵⁾ Salem & Anderson, 2015. Pathology



*This product can be used alone or with the method.

CHROMagar™ StrepA



Product code
SP372: 5 L pack
SP373-25: 25 L pack

Plate Reading

- Group A *Streptococcus*
→ Orange to red
- Other oral *Streptococci*
→ Colourless or blue

For screening of Group A *Streptococci* in throat samples

96 % Sensitivity/ 100 % Specificity⁽⁶⁾

S. pyogenes infection is responsible for nearly all *Streptococci* caused bacterial pharyngitis, therefore the specific target of current Strep throat screening methods. CHROMagar™ StrepA is a new chromogenic formulation allowing for an easy to read and straight forward color differentiation of GAS colonies (in orange to red) among the other bacteria in the complex throat flora (colorless or blue colonies).

⁽⁶⁾ Gaskin *et al.*, 2019. ASM Microbe



CHROMagar™ Serratia



Product code
SM302: 5 L pack

Plate Reading

- *S. marcescens*
→ Green-blue to metallic blue
- *E. coli*
→ Dark pink to reddish
- *Pseudomonas*
→ Colourless

For detection of *Serratia marcescens*

100 % Sensitivity/ 97 % Specificity⁽⁹⁾

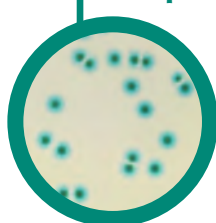
Serratia species are implicated in nosocomial infections. In several countries, *Serratia marcescens* is frequently associated with epidemics in intensive care units and in particular in neonatal and pediatric units. Surveillance of nosocomial infections requires effective recovery of clinical isolates from faeces, wound exudates and respiratory samples to prevent problems of cross infection and potentially fatal infections.

In this context, CHROMagar™ has developed CHROMagar™ Serratia, a culture medium perfectly suited to the search for *S. marcescens* in faeces.

⁽⁹⁾ Gaskin *et al.*, 2020. ECCMID



CHROMagar™ B.cepacia



Available
End of 2022

Plate Reading

- *Burkholderia*
→ Blue +/- blue halo

For detection and numeration of *Burkholderia cepacia* complex

Burkholderia cepacia complex is among the most important pathogens isolated from cystic fibrosis patients and in hospital acquired infections. Several outbreaks have been described due to contaminated medications, medical products and equipment. The slowest growing species can be missed on conventional media such as blood or MacConkey Agar due to the overgrowth of other organisms.

CHROMagar™ B.cepacia is a strongly selective chromogenic medium which will detect most of the bacteria from *Burkholderia cepacia* complex within 36 h.



Drug Resistant Bacteria Detection

Failure to rapidly detect antibiotic resistant bacteria has contributed to their uncontrolled spread, and sometimes to therapeutic failures. CHROMagar™ has introduced various selective culture media specially designed for screening bacteria resistant which express different kinds of reduced antibiotic susceptibility.

CHROMagar™ MRSA



Product code
MR502: 5 L pack

Plate Reading

- Methicillin resistant *Staphylococcus aureus* (MRSA)
→ Rose to mauve
- Methicillin susceptible *Staphylococcus aureus*
→ Inhibited
- Other bacteria
→ Blue, colourless or inhibited

For isolation and differentiation of methicillin resistant *Staphylococcus aureus* (MRSA) including low level MRSA

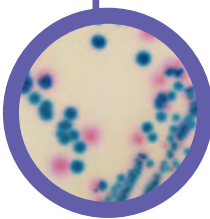
100 % Sensitivity/ Specificity⁽¹⁰⁾

CHROMagar™ introduced a revolution in this field in 2002, with the first chromogenic medium for the detection of methicillin resistant *Staphylococcus aureus*: CHROMagar™ MRSA. This medium led to such significant reductions in both the response time and laboratory workload, that it allowed an absolutely necessary wide-scale patient screening.



⁽¹⁰⁾ Taguchi *et al.*, 2004, J. Jpn. Ass. Infect. Dis.

CHROMagar™ mSuperCARBA™



Product code
SC172: 5 L pack
SC173-25: 25 L pack

Plate Reading

- CPE *E. coli*
→ Dark pink to reddish
- CPE coliforms
→ Metallic blue
- Other Gram (-) CPE
→ Colourless
- Other Gram (-) no-CPE
→ Blue, colourless or inhibited

For the detection of Gram (-) bacteria with a reduced susceptibility to most carbapenem agents

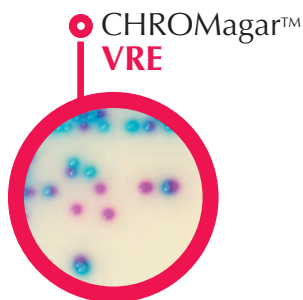
100 % Sensitivity/ Specificity⁽¹¹⁾

Since the launch of CHROMagar™ KPC in 2007, many carbapenemases have spread around the world, being necessary today to address the difficult detection of low level carbapenemases.

Dr. Alain Rambach and Pr. Patrice Nordmann have joined their efforts to develop a highly sensitive chromogenic medium, CHROMagar™ mSuperCARBA™, the new generation of chromogenic media that detects a large variety of carbapenemases KPC, NDM, VIM, IMP, OXA...with an impressive limit of detection (10 CFU/mL), even for weakly expressed carbapenemases like OXA-48, while maintaining a high level of selectivity.



⁽¹¹⁾ Garcia-Fernandez *et al.*(Canton), 2016. Diagn. Micr. Infect. Dis.



Product code
VR952: 5 L pack

Plate Reading

- *VRE. faecalis* / *VRE. faecium*
→ Pink to mauve
- *E. gallinarum* / *E. casseliflavus*
→ Blue or inhibited
- Other bacteria
→ Inhibited

**For detection of Van A/Van B
VRE. faecalis & VRE. faecium**

95 % Sensitivity/ 90 % Specificity⁽¹²⁾

Acquired vancomycin resistance in *E. faecalis* and *E. faecium* has the potential to be transmitted to aggressive pathogens. Their spread can be avoided by laboratory's ability to rapidly detect VRE and implementation of efficient control measures. The use of CHROMagar™ VRE media allows vancomycin resistant *E. faecalis* and *E. faecium* to be easily detected by colony colour after only **24 hours** of incubation.

⁽¹²⁾ Miller et al. 2011. CACMID



Product code
AC092: 5 L pack

Plate Reading

- *Acinetobacter* spp.
→ Red
- Other bacteria
→ Blue or inhibited

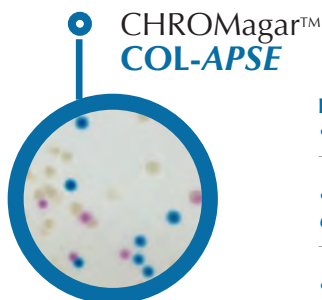
For detection of Acinetobacter

100 % Sensitivity/ 99 % Specificity⁽¹³⁾

Acinetobacter is an organism with high capacity for survival on environmental surfaces. Its ability to acquire antimicrobial resistance is a cause of increased concern for nosocomial infections. In hospitals, *Acinetobacter baumannii*, for instance, can penetrate the body through open wounds, catheters, and breathing tubes.

Any effective infection control policy should include a faecal surveillance. CHROMagar™ Acinetobacter is a tool specifically designed to facilitate this step, **by allowing its growth in an intense red colony colour.**

⁽¹³⁾ Wallet et al. (Gaillot), 2010. ICAAC



Product code
CO262: 5 L pack

Plate Reading

- Col. R *E. coli*
→ Dark pink to reddish
- Col. R *Klebsiella*, *Enterobacter*, *Citrobacter*, *Serratia*
→ Metallic blue
- Col. R *Pseudomonas*
→ Translucent cream to blue
- Col. R *Acinetobacter*
→ Cream, opaque

For detection of colistin resistant Gram (-) bacteria

100 % Sensitivity/ 81 % Specificity⁽¹⁴⁾

CHROMagar™ COL-APSE is a sensitive and specific medium for the growth of colistin resistant bacterial pathogens with a lower limit of detection of 10 CFU/mL. This new chromogenic medium may be useful as a primary isolation medium in the surveillance and recovery of colistin resistant bacteria from complex human, veterinary and environmental samples especially those with plasmid mediated mcr-1 or novel mechanisms of polymyxin resistance.⁽¹⁰⁾

⁽¹⁴⁾ Abdul Momin et al. (Wareham), 2017. J. Med. Microbiol.



Product code
MH482: 5 L pack
MH483-25: 25 L pack

Plate Reading

- *E. coli*
→ Dark pink to reddish
- *Enterococcus*
→ Turquoise blue
- *Klebsiella*, *Enterobacter*, *Citrobacter*
→ Metallic blue
- *Proteus*
→ Brown halo

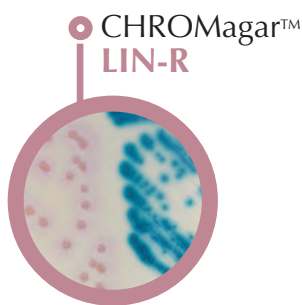
Chromogenic Mueller Hinton agar

Concordance with standard procedure: 94.8 %⁽¹⁵⁾

CHROMagar™ MH Orientation combines the advantages of traditional Mueller Hinton and chromogenic media. Not only could it be used in routine laboratory (for common Urine Tract Infections (UTI)) but also in specific cases where rapid procedure for antimicrobial susceptibility testing is required. Testing samples from ICU patients with Ventilated Associated Pneumonia (VAP) is a good example where CHROMagar™ MH Orientation' benefits would help saving lives and reduce healthcare costs.

⁽¹⁵⁾ Cercenado et al., 2009. ECCMID





Product code
LN762: 5 L pack

CHROMagar™ LIN-R

Plate Reading

- LZD-R *S. aureus*
→ Pink
- LZD-R *S. epidermidis*
→ Pink
- LZD-R *Enterococcus*
→ Metallic blue

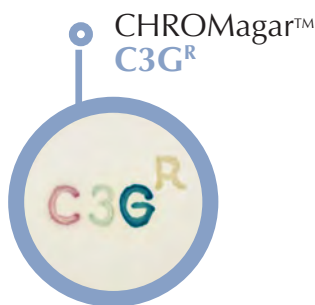
For detection and differentiation of Gram (+) linezolid resistant bacteria

99 % Sensitivity/ 100 % Specificity⁽¹⁶⁾

Gram (+) coccus pose a global threat to human health due to the emergence of resistance to antibiotics. Linezolid has a broad spectrum of activity against a variety of pathogenic Gram (+) microorganisms. Although the prevalence of linezolid resistance remains low, the emergence of LIN-R strains is still of great concern. Today, linezolid sensitivity in Gram (+) clinical specimens is primarily monitored by surveillance programs in Europe and the United States.

CHROMagar™ LIN-R is a new chromogenic screening medium for the detection, isolation and differentiation of strains of *Staphylococcus* and *Enterococcus* resistant to linezolid.

⁽¹⁶⁾ F. Layer et al. Diagn. Micr. Infect. Dis. 2021



Product code
CGRT2: 5 L pack
CGRT3-25: 25 L pack

CHROMagar™ C3G^R

Plate Reading

- *E. coli*
→ Dark pink to reddish
- *Klebsiella*, *Enterobacter*,
Citrobacter
→ Metallic blue (+/- red halo)
- *Proteus*
→ Brown halo

For detection and differentiation of Gram (-) bacteria resistant to 3rd generation cephalosporins

100 % Sensitivity/ 77 % Specificity⁽¹⁷⁾

β -Lactamases production is the most common mechanism of β -lactam drug resistance in Gram (-) bacteria. Many clinical laboratories currently screen for ESBLs but do not screen for AmpC β -lactamases; which have been responsible for nosocomial outbreaks.

CHROMagar™ C3G^R combines the species colour differentiation and a selectivity that allows the growth of microorganisms with the reduced susceptibility to 3rd generation cephalosporins.

⁽¹⁷⁾ Joshi-Caesar et al., 2012. ASM



Product code
ESRT2: 5 L pack
ESRT3-25: 25 L pack

CHROMagar™ ESBL

Plate Reading

- *E. coli* ESBL
→ Dark pink to reddish
- *Klebsiella*, *Enterobacter*,
Citrobacter ESBL
→ Metallic blue (+/- red halo)
- *Proteus* ESBL
→ Brown halo

For overnight detection of Gram (-) bacteria producing Extended Spectrum β -Lactamase

98 % Sensitivity/ 97 % Specificity⁽¹⁸⁾

ESBL (Extended Spectrum β -Lactamases) are enzymes that mediate resistance to penicillins, extended-spectrum third generation cephalosporins (C3G) and monobactams. ESBL-producing *Enterobacteriaceae* started to appear in the 80s, and have since emerged as some of the most significant hospital-acquired infections with *Escherichia coli* and *Klebsiella spp.* being the main actors, but other Gram (-) species have also been observed. Therefore, the early detection of ESBL-producing bacteria carriers is important to minimise their impact and the spread of infections and customise therapeutic patient treatment.

⁽¹⁸⁾ Klysova et al., 2016. ECCMID



Product code
KPRT2: 5 L pack
KPRT3-25: 25 L pack

CHROMagar™ KPC

Plate Reading

- *E. coli* Carbapenem^R
→ Dark pink to reddish
- *Klebsiella*, *Enterobacter*,
Citrobacter Carbapenem^R
→ Metallic blue
- *Pseudomonas* Carbapenem^R
→ Translucent cream

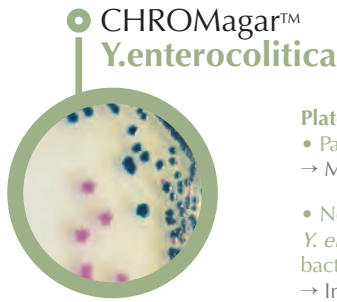
For detection of Gram (-) bacteria with a reduced susceptibility to most of the carbapenem agents

100 % Sensitivity/ 98 % Specificity⁽¹⁹⁾

Carbapenems are the last resort in treating many serious Gram (-) infections. However, production of these enzymes results in resistance to penicillins, cephalosporins (i.e., cefepime, ceftriaxone), carbapenems (i.e., meropenem, ertapenem), and aztreonam, thereby making these pathogens truly multidrug-resistant and making their treatment very challenging.

⁽¹⁹⁾ Samra et al., 2008. J. Clin. Microbiol.





Product code
YE492: 5 L pack

CHROMagar™ Y. enterocolitica

Plate Reading

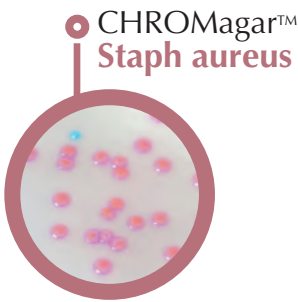
- Pathogenic *Y. enterocolitica*
→ Mauve
- Non pathogenic
Y. enterocolitica and other
bacteria
→ Inhibited or limited growth
or metallic blue colour

For detection and direct differentiation of pathogenic *Yersinia enterocolitica*

100 % Sensitivity/ 99 % Specificity⁽²⁰⁾

Among the *Yersinia* genus, *Yersinia enterocolitica* is one of the most common food borne pathogens. Traditional culture media, like the CIN agar allow for the growth of both pathogenic and non-pathogenic biotypes with the same aspect, resulting in an important workload on irrelevant isolates (false positives). With CHROMagar™ Y. enterocolitica, the pathogenic strains are immediately differentiated from other bacteria by a distinctive colony colour. The laboratory will then concentrate its efforts and resources only on suspect colonies that have a real potential of pathogenicity.

⁽²⁰⁾ Renaud *et al.*, (Gaillot), 2013. J. Clin. Microbiol.



Product code
TA672: 5 L pack

CHROMagar™ Staph aureus

Plate Reading

- *Staphylococcus aureus*
→ Pink to mauve
- Other bacteria
→ Colourless, blue or inhibited

For isolation and direct differentiation of *Staphylococcus aureus*

95 % Sensitivity/ 99 % Specificity⁽²¹⁾

Staphylococcus aureus is a major pathogenic bacterium found in the clinical field and in food industry. Nosocomial infections due to *S. aureus* create an increasing number of problems, so it is essential to accurately and rapidly detect *S. aureus*. Mannitol fermentation based traditional media lead to many false positives and false negatives. CHROMagar™ Staph aureus has **unrivalled sensitivity and specificity** for detecting *S. aureus* after 24 hours. This obviates the need for many useless catalase and latex agglutination tests on non-*S. aureus* strains.

⁽²¹⁾ Gaillot *et al.*, 2000. J. Clin. Microbiol.



Product code
ST162: 5 L pack

CHROMagar™ STEC

Plate Reading

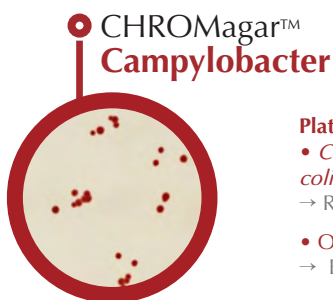
- Most common Shiga-Toxin
E. coli serotypes
→ Mauve
- Other *Enterobacteriaceae*
→ Colourless, blue
or inhibited

For detection of Shiga-Toxin producing *E. coli* (STEC)

81 % Sensitivity/ Specificity⁽²²⁾

An increasing and worrisome number of studies show that, non-O157 Shiga-Toxin producing *E. coli* (STEC) have been significantly responsible for foodborne poisoning outbreaks. In many cases, laboratories have limited their search for pathogenic *E. coli* to the common O157 serotype, due to the fact that there were no available selective culture media for non-O157 *E. coli*. CHROMagar™ STEC is designed to fill this gap: detection, as mauve colonies, of not only the classical STEC O157, but also many other serotypes. It is an excellent tool for a large number of samples screening procedures.

⁽²²⁾ Lubeskie *et al.*, 2016. ECCMID



Product code
CP572: 5 L pack
CP573-25: 25 L pack

CHROMagar™ Campylobacter

Plate Reading

- *Campylobacter jejuni*,
coli, *lari*
→ Red
- Other bacteria
→ Blue or inhibited

For the detection, differentiation and enumeration of thermotolerant *Campylobacter*

100 % Sensitivity/ 94 % Specificity⁽²³⁾

Campylobacter is a major cause of foodborne diarrheal diseases in humans and the most common bacterial cause of gastroenteritis around the world. With CHROMagar™ Campylobacter, the detection of thermo-tolerant *Campylobacter* in red on a translucent agar facilitates the reading compared to traditional charcoal based agar where numeration is difficult. Other microorganisms will be inhibited, or grow in blue colonies for clear differentiation.

⁽²³⁾ Benseris-Nedjar *et al.* (Chabani), 2016. RICA





Food Industry

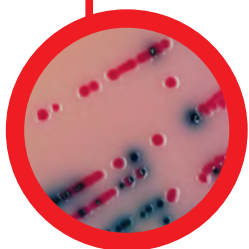
The worldwide known Rambach™ Agar was launched in 1989. It was **the first commercially available chromogenic medium** for *Salmonella* detection.

Its simplicity of reading allowed such efficiency improvement in the *Salmonella* testing, that the chromogenic technology became unavoidable in the food industry.

Since then, our R&D laboratory pursue its efforts to develop new and ever more efficient chromogenic solutions for the detection of a variety of foodborne pathogens.

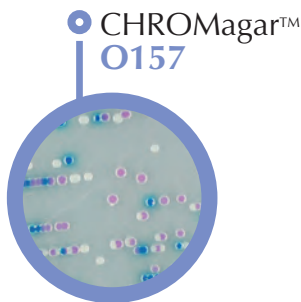


 Rambach™
Agar



**For detection and isolation
of *Salmonella* spp. in clinical
and food samples**

Product code
RR702: 5 L pack
RR703-25: 25 L pack



Product code
EE222: 5 L pack
EE223-25: 25 L pack

Plate Reading

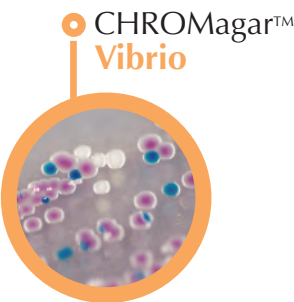
- *E. coli* O157
→ Mauve
- Other bacteria
→ Steel blue, colourless or inhibited

For the selective isolation and differentiation of *E. coli* O157 in food/clinical samples

89 % Sensitivity/ Specificity⁽²⁴⁾

The conventional medium for detection of *E. coli* O157, Sorbitol Mac Conkey Agar, has a poor specificity therefore creating a lot of false positives (*Proteus*, *E. hermannii*, etc.). Sorbitol Mac Conkey Agar is also difficult to read since the pathogen gives colourless colonies among red colonies. CHROMagar™ O157 is a chromogenic medium with easier detection of ***E. coli* O157 as mauve colonies** among blue and colourless colonies. Selectivity can be increased by adding potassium tellurite to our medium.

⁽²⁴⁾ Bettelheim, 1998. J. Appl. Microbiol.



Product code
VB912: 5 L pack
VB913-25: 25 L pack

Plate Reading

- *V. parahaemolyticus*
→ Mauve
- *V. vulnificus/V. cholerae*
→ Green blue to turquoise blue
- *V. alginolyticus*
→ Colourless

For isolation and detection of *V. parahaemolyticus*, *V. vulnificus* and *V. cholerae*

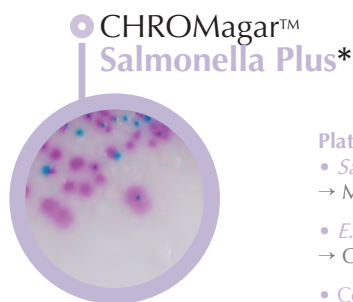
100 % Sensitivity/ Specificity⁽²⁵⁾

V. parahaemolyticus, *V. vulnificus* and *V. cholerae* are pathogenic bacteria which can cause serious seafood poisoning. For the detection of those bacteria, traditional methods (TCBS) are long, require heavy workload and are not very sensitive. On the contrary, CHROMagar™ Vibrio medium helps to easily **differentiate *V. parahaemolyticus*, *V. vulnificus* and *V. cholerae*, from other *Vibrio* directly at the isolation step** by colony colour with a higher sensitivity than conventional methods.

⁽²⁵⁾ Di Ponto *et al.*, 2010. Food Control



Product code
SQ001: 1 L pack

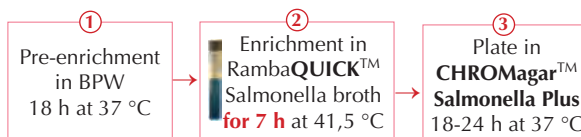


Product code
SA162: 5 L pack
SA163-25: 25 L pack

Plate Reading

- *Salmonella*
→ Mauve
- *E. coli*
→ Colourless
- Coliforms
→ Blue

For Rapid detection of *Salmonella* species including *S. typhi*, *S. paratyphi* and lactose positive strains in food samples



For detection and isolation of *Salmonella* species including lactose positive *Salmonella* in food specimens

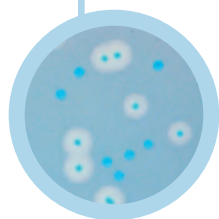
99 % Sensitivity/ Specificity⁽²⁶⁾

The ISO 6579 for *Salmonella* testing is a direct result of the growing incidence of lactose positive *Salmonella* spp. isolated from cases of food poisoning. CHROMagar™ Salmonella Plus has been developed to **meet the requirements of ISO 6579** and provides clear, easily visible identification of *Salmonella* spp. including: lactose positive *Salmonella*, *S. typhi* and *S. paratyphi*.

⁽²⁶⁾ de Beaumont *et al.* 2006. ECCMID

*This product can be used alone or with the method.

CHROMagar™ Listeria Method



Product code CHROMagar™ Listeria
LM852: 5 L pack



Product code
CHROMagar™ Identification Listeria
LK970: 250 mL pack

Isolation Plate Reading

- *L. monocytogenes*
→ Blue
diameter less than 3 mm,
regular and white halo

+

Confirmation Plate Reading

- *L. monocytogenes*
→ Rose surrounded
by a white halo

For detection, differentiation, enumeration and confirmation of *Listeria monocytogenes* from other bacteria in food samples

100 % Sensitivity/ Specificity⁽²⁷⁾

Listeria monocytogenes is a pathogenic bacterium which can cause serious food poisoning. Since *L. monocytogenes* and *L. innocua* have similar biochemical properties, they cannot be differentiated on traditional media (Palcam, Oxford).

On CHROMagar™ Listeria, *L. monocytogenes* colonies have a specific blue colour surrounded by a white opaque halo.

The CHROMagar™ Listeria method allows **detection of negative samples in only 2 days**. This method requires only a single half Fraser enrichment step and confirmation of positive samples can be performed by picking a suspect colony directly from **CHROMagar™ Listeria** and transferring it to **CHROMagar™ Identification Listeria** giving a result the next day.

⁽²⁷⁾ CHROMagar™ Listeria Method Validation Report, 2003.

CHROMagar™ B.cereus



Product code
BC732: 5 L pack

Plate Reading

- *Bacillus cereus* group
→ Blue with white halo
- Other *Bacillus*
→ Blue, colourless, or
inhibited
- Gram (-) bacteria, yeast
and moulds
→ Inhibited

For detection and enumeration of *Bacillus cereus* group

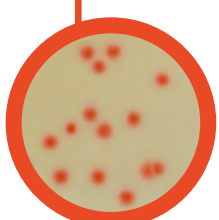
100 % Sensitivity/ Specificity⁽²⁸⁾

Bacillus cereus food poisoning is frequently associated with ready-to-eat products. The bacterium has been isolated from dried beans and cereals, and from dried foods such as spices, seasoning mixes and potatoes.

On CHROMagar™ B.cereus, the intense blue coloured colonies surrounded by a halo on a translucent agar facilitates the reading compared to traditional Mannitol based agar which displays red colonies on pink agar.

⁽²⁸⁾ Enumeration medium of presumptive *Bacillus cereus*, Report, 2011. Adria Normandie

CHROMagar™ C.perfringens



Product code
PF652: 5 L pack

Plate Reading

- *Clostridium perfringens*
→ Orange
- Other bacteria
→ Blue, metallic blue or
inhibited

For isolation and direct differentiation of *Clostridium perfringens*

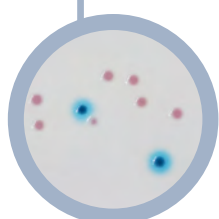
100 % Sensitivity/ Specificity⁽²⁹⁾

Clostridium perfringens is involved in food poisoning and animals infections. CHROMagar™ C.perfringens allows the detection and numeration of *Clostridium perfringens* in food and water samples. Specific and selective, this medium detects the *Clostridium perfringens* colonies by an orange coloration. The other microorganisms are blue, metallic blue or inhibited.

CHROMagar™ C.perfringens can be used with pouring or surface methods, offering the latter a better performance than traditional media like TSC.

⁽²⁹⁾ Hustà *et al.*, 2020. Anaerobe

CHROMagar™ Enterobacteria



Product code
EB042: 5 L pack

Plate Reading

- *E. coli*
→ Blue with/without blue halo
- Other *Enterobacteriaceae*
→ Pink to red
- *Proteus*
→ Red with swarming
- Other bacteria
→ Inhibited

For detection and enumeration of *Enterobacteriaceae*

100 % Sensitivity/ Specificity⁽³⁰⁾

The *Enterobacteriaceae* and coliform bacteria within this family represent two of the most common groups of indicator organism used by the food industry. In some countries, depending on regulatory requirements, the food industry has moved towards testing for *Enterobacteriaceae*.

CHROMagar™ Enterobacteria allows the detection and differentiation by the color of *E. coli* and other *Enterobacteriaceae*.

⁽³⁰⁾ CHROMagar™ Enterobacteria for enumeration, 2018. Laboratoire de Tournaire



Veterinary Microbiology

Veterinary Microbiology is concerned by bacterial infections in domesticated vertebrate animals that supply food or companionship. Among the current critical challenges, Veterinarian need to obtain precise species identification of organisms in a timely manner. CHROMagar™ has elaborated a range of tools, based on our pioneering technology of chromogenic culture media for the veterinary field.



CHROMagar™ Mycoplasma



Plate Reading
 • *Mycoplasma bovis*
 → Dark red

Available in
September 2022

For detection of *Mycoplasma bovis* in respiratory samples

The first chromogenic formulation to detect *Mycoplasma bovis*. Despite the slow growth of this organism and the small size of its colonies, in CHROMagar™ Mycoplasma it can clearly be distinguished in after barely 72h of incubation by the naked eye. No need for a microscope to find the colonies !



CHROMagar™ Pasteurella



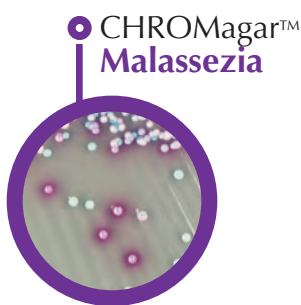
Plate Reading
 • Pasteurellaceae
 → Pink to mauve
 • *E. coli*, coliforms
 → Inhibited, blue to metallic blue

Product code
PR012: 5 L pack

For detection of Pasteurellaceae

Histophilus somni, *Pasteurella multocida* and *Mannheimia haemolytica* are among the main bacteria associated with the pathogen complex of bovine respiratory diseases. During infection, these species cause complications which can lead to sepsis and death of the animal.

CHROMagar™ Pasteurella was developed to improve the detection of Pasteurellaceae from a bovine respiratory sample. This chromogenic medium to aid in qualitative diagnosis allows the detection and isolation of Pasteurellaceae colonies by inhibition or differentiation of the annex flora.



Product code
MZ282: 5 L pack
MZ283-25: 25 L pack

CHROMagar™ Malassezia

Plate Reading

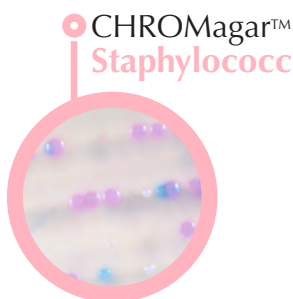
- *Malassezia furfur*
→ Large, pale pink and wrinkled
- Other *Malassezia* spp. including *M. globosa* & *M. restricta*
→ Mostly pink to purple

For detection of *Malassezia* spp.

≥ 97 % Sensitivity/ > 71 % Specificity⁽³¹⁾

Malassezia is a fungus naturally found on the animals skin. On normal healthy skin it does not cause infections, but when the environment of the skin is altered, *Malassezia* species are able to cause several cutaneous diseases as severe dermatitis or otitis. Since members of the genus *Malassezia* share similar morphological and biochemical characteristics, the use of traditional culture media for differentiating them based on phenotypic features is not suitable. CHROMagar™ *Malassezia* was developed with the goal of facilitating not only their detection, but also to improve an algorithm for the differentiation of the most common species.⁽⁵⁾

⁽³¹⁾ Kaneko et al. 2007. J. Clin. Microbiol.



Product code
CQ382: 5 L pack

CHROMagar™ Staphylococcus

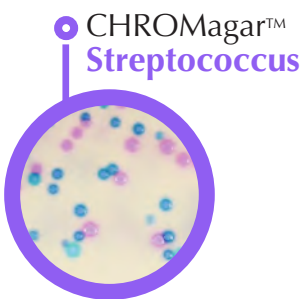
Plate Reading

- *S. aureus*
→ Mauve
- Other *Staphylococcus*
→ Blue to colourless
- Other bacteria
→ Inhibited

For detection and isolation of *Staphylococcus* spp.

Mastitis is a disease that causes major losses in dairy production. *S. aureus* is one of the most prevalent pathogens but other *Staphylococcus* species are known to lead to contagious subclinical mastitis with serious consequences on milk production.

CHROMagar™ *Staphylococcus* is a selective chromogenic medium for the direct detection and differentiation of *Staphylococcus* spp.



Product code
CQ392: 5 L pack

CHROMagar™ Streptococcus

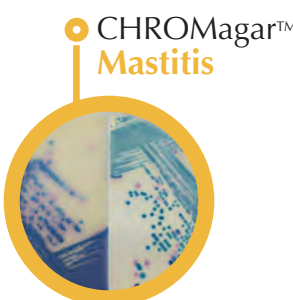
Plate Reading

- *Streptococcus*
→ Blue
- *Enterococcus*
→ Mauve
- Other bacteria
→ Colourless or inhibited

For detection and isolation of *Streptococcus* spp.

Streptococcus agalactiae as well as environmental streptococcal organisms like *S. uberis*, are cause of mastitis in dairy cattle and a source of economic loss for the industry (lost production, reduction in milk quality and medical costs). Culturing clinical mastitis cases throughout lactation and conducting antibiotic sensitivity trials will guide the most effective treatment.

CHROMagar™ *Streptococcus* allows the detection of *Streptococci*, like *S. agalactiae*, *S. uberis*, *Enterococcus* particularly interesting to rapidly differentiate pathogens from environment flora.



Product code
MS252: 2x5 L pack

CHROMagar™ Mastitis

Plate Reading CHROMagar™ Mastitis GP

- *S. agalactiae*
→ Blue-green
- *S. uberis*
→ Metallic blue
- *S. aureus*
→ Pink

CHROMagar™ Mastitis GN

- *Klebsiella*, *Enterobacter*, *Citrobacter*
→ Metallic blue (+/- red halo)
- *E. coli*
→ Red

For isolation and differentiation of the main pathogens involved in Mastitis infections

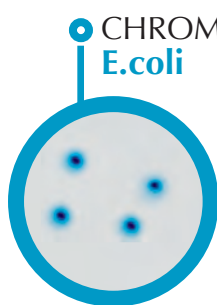
Mastitis causes a reduction in the quantity and quality of milk output, increased veterinary expenses due to excessive use of medications, increased risk of residues in the milk or meat and, consequently, the possibility of damage public health.

CHROMagar™ *Mastitis* is a new commercially available tool for the rapid and simple differentiation of the main bacteria involved in Mastitis infections. It is supplied as a kit with two different media, one for the Gram (+) bacteria, and the other for the Gram (-) bacteria.



Water Testing

E. coli and coliforms are the most common water bacteriological contamination indicators. Thus, worldwide regulations impose their detection (presence/absence tests) and the numeration. CHROMagar™ has developed a complete range of tools, based on our chromogenic culture media technology to help the detection of these germs in determining water and food safety.



Product code
EC168: 5 L pack
EC169-25: 25 L pack

CHROMagar™ E.coli

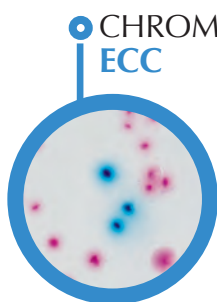
Plate Reading

- *E. coli*
→ Blue
- Other Gram (-) bacteria
→ Colourless
- Gram (+) bacteria
→ Inhibited

For detection and enumeration of *E. coli* in food and water samples

The presence of *E. coli* indicates faecal contamination and potential risk of dangerous pathogens. The general food and water standards limits' are usually from zero to single figure *E. coli* CFU per gram and thus it is important to detect and enumerate them accurately.

With CHROMagar™ E.coli, colonies of *E. coli* develop with an intense blue colour thus making detection and enumeration of this important hygiene indicator as simple as possible.



Product code
EF322: 5 L pack
EF323-25: 25 L pack

CHROMagar™ ECC

Plate Reading

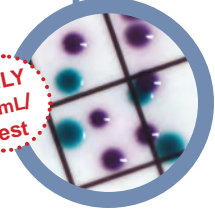
- *E. coli*
→ Blue
- Other coliforms
→ Mauve
- Other bacteria
→ Colourless or inhibited

For the simultaneous detection and enumeration of *E. coli* and other coliforms in food or water samples

Coliforms, Lactose positive Enterobacteriaceae are present in human and warm blooded animals intestinal flora, in the soil and water. Coliforms are proof of organic, environmental or faecal contamination. Strict regulations exist for *E. coli*/coliform presence in water and food samples to determine water and food safety CHROMagar™ ECC allows simultaneous detection and differentiation between *E. coli* and coliforms in one medium.

CHROMagar™ Liquid ECC

ONLY
2 mL
Test



Product code
EL382: 5 L pack

Plate Reading

- *E. coli*
→ Blue
- Other coliform bacteria
→ Purple
- Other Gram (-) bacteria
→ Colourless or inhibited

For the simultaneous detection and enumeration of *E. coli* and other coliforms in water samples

99 % Sensitivity/ 96 % Specificity⁽³²⁾

This is an innovative chromogenic culture medium to be used in broth form (without agar) within the water filtration technique, to impregnate the pad. **You can take an aliquot to prepare the exact quantity of broth you desire.** Thanks to this flexibility, you get rid of prepared media stock and shelf life management headaches, and are ensured of always working with fresh media.

⁽³²⁾Ho & Tam *et al.*, 1997. Wat. Sci. Tech.

AquaCHROM™ ECC



Product code
AQ056: 100 x 100 mL pack

Reading

- *E. coli*
→ Blue to blue-green liquid
- Other coliforms
→ Yellow Liquid

Presence/Absence of *E. coli* and coliforms in water samples

Liquid Technique

100 % Sensitivity/ Specificity⁽³³⁾

AquaCHROM™ ECC is a non-agar based medium designed to detect the presence of *E. coli* and other coliforms in 100 mL water samples. Its advantage, compared to other similar commercially available tests, resides in the fact that there is no need of ultra-violet lamp to confirm the presence of *E. coli* in the sample.

The novel formulation of AquaCHROM™ ECC uses two different chromogens (instead of the traditional chromogen/fluorogen combination) which enables test results to be **read under normal lighting conditions**. Samples develop a yellow colouration when coliforms are present and a green colouration when *E. coli* is present.

⁽³³⁾Lemer *et al.*, 2013. ASM.

CHROMagar™ Pseudomonas



Product code
PS832: 5 L pack

Plate Reading

- *Pseudomonas* including *P. aeruginosa*
→ Blue green
- Other Gram (-)
→ Mauve to violet, or inhibited
- Gram (+) bacteria
→ Mostly inhibited

For isolation and detection of *Pseudomonas* species

Pseudomonas are ubiquitous bacteria found in the soil, freshwater and marine habitats. *Pseudomonas* bacteria are known to cause food spoilage at low temperatures and lead to food poisoning by the transmission of opportunistic pathogens.

CHROMagar™ *Pseudomonas* delivers **rapid and clear results** for detection of *Pseudomonas* in an intense blue-green colour, clearly visible to the naked eye.

CHROMagar™ *P.aeruginosa*

COMING SOON

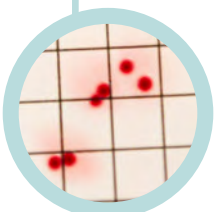


Plate Reading

- *P. aeruginosa*
→ Red
- Other Gram (-)
→ Colourless or inhibited

For enumeration of *Pseudomonas aeruginosa* in water samples

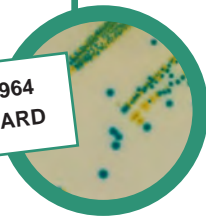
P. aeruginosa is a bacteria specifically found on water and soil and can cause various infections from minor disease to serious illness that can be life-threatening.

CHROMagar™ *P.aeruginosa* is a selective chromogenic culture medium designed for the enumeration of *Pseudomonas aeruginosa* in water samples. Used with the pad method, it allows an easy detection of *P. aeruginosa* colonies in a specific red coloration after 24h.

ISO Standardized Media

CHROMagar™ Cronobacter

ISO 22964
STANDARD



Product code
MC122: 5 L pack

Plate Reading

- *Cronobacter* spp.
→ Green to blue
- Other Gram (-)
→ Colourless, clear green, black or yellow
- Gram (+) bacteria
→ Inhibited

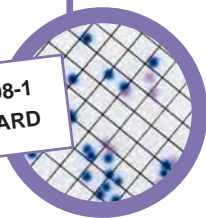
For detection of *Cronobacter* spp.

Cronobacter is an ubiquitous telluric microorganism found in water, soil, plants, dust and many other living things. *Cronobacter* has been isolated from many foods of plant or animal origin, both dehydrated, smoked, frozen, fermented, raw and cooked.

CHROMagar™ Cronobacter is the Chromogenic Cronobacter Isolation (CCI) agar, manufactured in accordance with ISO 22964 standard.

CHROMagar™ CCA

ISO 9308-1
STANDARD



Product code
EF342: 5 L pack

Plate Reading

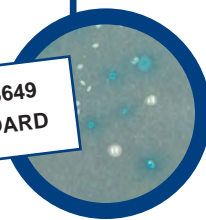
- *E. coli*
→ Metallic blue to violet
- Other coliforms
→ Pink to red
- Other bacteria
→ Colourless, inhibited

For detection and enumeration of *E. coli* and other coliforms in water samples

Coliforms, *Enterobacteriaceae* able to ferment lactose (lactose positive *Enterobacteriaceae*), are bacteria present not only in human and warm blooded animals intestinal flora but also in the soil and water. Coliforms are proof of organic, environmental or faecal contamination. Strict regulations exist for *E. coli*/coliform presence in water samples. This can be explained by the importance of these germs in determining drinking water safety and process efficiency of treatment, storage and distribution. CHROMagar™ CCA allows simultaneous detection and differentiation between *E. coli* and coliforms in one medium in accordance with ISO 9308-1 standard.

CHROMagar™ TBX

ISO 16649
STANDARD



Product code
TX182: 5 L pack

Plate Reading

- *E. coli*
→ Blue
- *E. aerogenes*
→ Colourless
- *E. faecalis*
→ Inhibited

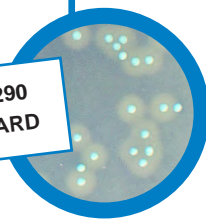
For the detection and enumeration of β -glucuronidase positive *E. coli* in food and animal feeding stuffs

The presence of *E. coli* in food and animal feeding stuffs is regarded as an indication of contamination with organisms of faecal origin which can cause life-threatening infections.

CHROMagar™ TBX allows a clear and easy detection and enumeration of β -glucuronidase positive *E. coli* in food and animal feeding stuffs according to ISO 16649 norm.

CHROMagar™ AOLA

ISO 11290
STANDARD



Product code
under request

Plate Reading

- *L. monocytogenes*
→ Blue with halo
- *L. innocua*
→ Blue without halo
- *E. faecalis*
→ Inhibited
- *E. coli*
→ Inhibited

For detection, enumeration and isolation of *Listeria monocytogenes* and *Listeria* spp.

Listeria monocytogenes is a widespread bacteria, present in the soil, sewage or faecal matter. This pathogen can cause serious food poisoning and is therefore frequently a microbial Q.C. target in food processing facilities to avoid food contamination. CHROMagar™ AOLA is a selective medium for the presumptive isolation and identification of *Listeria monocytogenes* and *Listeria* spp. in food samples.

This medium is also following ISO 11290-1 recommendations for the detection and enumeration for *Listeria monocytogenes*.

Products by samples

	CLINICAL										ENVIRONMENTAL						VETERINARY			FOOD INDUSTRY & WATER											
	Gastric Fluid	Nasal swab	Perineal swab	Rectal swab	Skin	Sputum	Stools	Throat	Urine	Vaginal specimens	Wounds	Air	Clinical Material	Other Materials	Processed water	Recreational water	Soil	Surfaces	Pets	Livestock	Poultry	Animal stuffs	Bakery	Eggs, egg products	Fish, seafood	Fruit, vegetables	Milk (dairy, powder)	Processed food, meat	Raw food, meat	Water, beverages	
CHROMagar™ Acinetobacter		●		●			●		●		●																				
CHROMagar™ B.cepacia		●				●		●	●																						
CHROMagar™ C.difficile							●																								
CHROMagar™ C3G ^R				●	●			●		●																					
CHROMagar™ Campylobacter							●								●				●		●							●			
CHROMagar™ Candida					●	●	●	●	●	●																					
CHROMagar™ Candida Plus				●	●	●		●		●																					
CHROMagar™ COL-APSE			●	●			●		●											●	●										
CHROMagar™ ESBL			●	●			●		●											●	●										
CHROMagar™ KPC			●	●			●		●											●	●										
CHROMagar™ LIN-R		●		●																											
CHROMagar™ Malassezia					●														●	●											
CHROMagar™ MH Orientation						●				●																					
CHROMagar™ MRSA		●	●	●						●																					
CHROMagar™ mSuperCARBA™			●	●			●		●											●	●										
CHROMagar™ Orientation										●																					
CHROMagar™ Salmonella									●																						
CHROMagar™ Serratia				●													●														
CHROMagar™ Staph aureus		●			●	●	●	●											●	●	●			●	●		●	●	●	●	●
CHROMagar™ STEC							●													●						●		●	●	●	
CHROMagar™ StrepA								●																							
CHROMagar™ StrepB				●					●	●																					
CHROMagar™ VRE		●					●					●																			
CHROMagar™ Y.enterocolitica							●												●								●	●			
CHROMagar™ B.cereus																●	●						●				●				
CHROMagar™ C.perfringens														●	●				●		●	●	●	●	●	●	●	●	●	●	●
CHROMagar™ Enterobacteria													●										●	●	●	●	●	●	●	●	●
CHROMagar™ Listeria														●	●					●	●				●		●				●
CHROMagar™ Mastitis																				●								●			
CHROMagar™ Mycoplasma																				●											
CHROMagar™ Pasteurella																			●	●											
CHROMagar™ O157																●					●						●		●	●	●
Rambach™ Agar														●	●	●				●	●			●	●	●	●	●	●	●	●
RambaQUICK™ Salmonella																			●	●	●			●	●	●	●	●	●	●	●
CHROMagar™ Salmonella Plus														●	●	●				●	●	●		●	●	●	●	●	●	●	●
CHROMagar™ Staphylococcus																				●							●				
CHROMagar™ Streptococcus																				●							●				
CHROMagar™ Vibrio															●		●								●	●					●
AquaCHROM™ ECC															●	●															●
CHROMagar™ E.coli														●	●	●	●							●	●	●	●	●	●	●	●
CHROMagar™ ECC														●	●	●	●							●	●	●	●	●	●	●	●
CHROMagar™ Liquid ECC														●	●									●	●	●	●	●	●	●	●
CHROMagar™ Pseudomonas												●			●	●	●											●			●
CHROMagar™ P.aeruginosa																															●

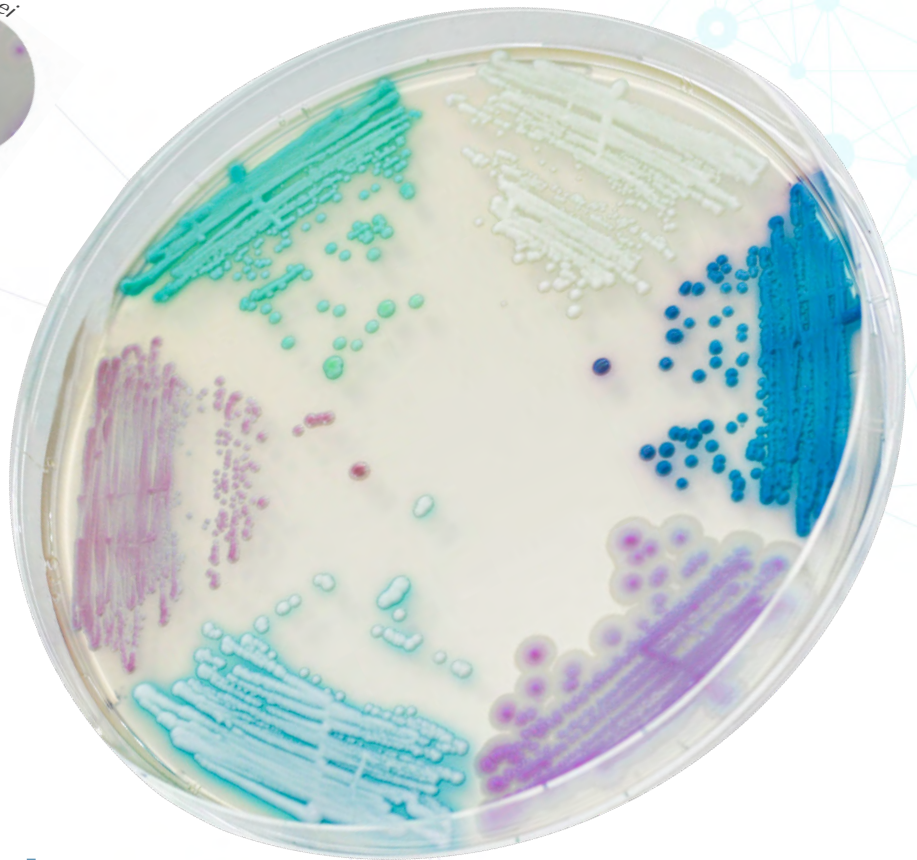
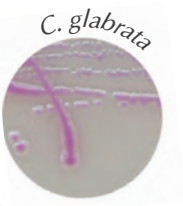
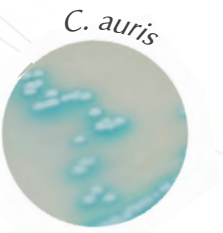
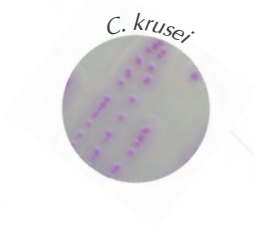
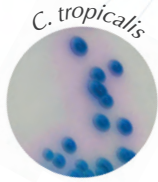
Packaging sizes

CHROMagar™ supplies the widest range of dehydrated chromogenic culture media designed to target specific needs in clinical, water-related, industrial and veterinarian fields. Our products are sold in powder form in the following packs sizes :



The unit size of our packs is the **Liter** Σ Quantity sufficient to prepare “X” liters of media. For example : A QSF 5L pack can prepare approximately 250 plates of media.

CHROMagar™ Candida Plus



Unique medium to
differentiate *C. auris*

Very specific
Morphology

High level
of Sensitivity

40 years of **Innovation**

Chromogenic Colours

Fast Results

Gain Flexibility

**Ask your local distributor
for more information**

Vertrieb durch / distributed by:

Mast Diagnostica GmbH

Feldstraße 20

DE-23858 Reinfeld

Tel. +49 (0)4533 2007 0

Fax +49 (0)4533 2007 68

mast@mast-diagnostica.de / www.mast-group.com

**Mast
Group**



www.CHROMagar.com



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For more information about our products, please refer to our website / Technical Documents.