

The Widest Range of Chromogenic Media For Colourful Microbial Detection



Clinical Microbiology

CHROMagar^{es} Candida



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 / Specificity

Yeasts are increasingly important pathogens, particularly for immuno-depressed people such as the elderly, AIDS victims, etc. CHROMagarTM 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

10 Odds F.C. and Bernaets R. 1994. J. Clin. Microbiol. 32: 1923-1929.

● CHROMagar™ Staph aureus



Plate Reading

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

For isolation and direct differentiation of Staphylococcus aureus

95,5% Sensitivity / 99,4% Specificity

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. CHROMagarTM 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-5.aureus strains.

Gaillot et al. 2000. J. Clin. Microbiol. 38: 1587-1591.

CHROMagar™ Orientation



Plate Reading

- Dark pink to reddish
- · Klebsiella, Enterobacter,
- → Metallic blue
- Citrobacter
- + Metallic blue with red halo
- Brown halo
- → Golden, opaque, small
- * S.saprophyticus
- Pink, opaque, small * Enterococcus
- Yurquoise blue

For isolation and differentiation of urinary tract pathogens

99,3% Sensitivity for E.coli

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, CHROMagarTM Orientation has a broader application as a general nutrient agar for the isolation of various microorganisms. For instance, CHROMagarTM 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

Merlino J. et al. 1996. J. Clin. Microbiol. 34: 1788-1793.

CHROMagas¹⁰⁸ C.difficile



Plate Reading

- . Colourless and fluorescent under UV light at 165nm
- * Colourless, non fluorescent or

For isolation and direct differentiation of Clostridium difficile*

95.4% Sensitivity"

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. CHROMagarTM C.difficile is a new

fluorogenic culture medium, extremely sensitive and selective, especially designed to simplify and speed up (24h) the culture of C.difficile.

"Carifot et al. Poster 2013 ASM 2014

CHROMagar^{ox} Malassezia



MC080; 5 L pinch

Plate Reading

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

For detection of Malassezia spp.

Malassezia is a fungi naturally found on the animals and humans 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.

CHROMagarox 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."

"Revised Coffees Based System for Identification of Malasseria Species, by Takeriosa et al. ICNA No. 2007



MRSA

MR500: 1 L pack / MR502: 5 L pack MR533-10Kg: 10 Kg pack

Plate Reading

- Methicillin Resistant
- Staphylococcus aureus (MRSA) → Rose to mauve
- · Methicillin Susceptible
- → Inhibited
- · Other bacteria
- → Blue, colourless or inhibited

For isolation and differentiation of Methicillin Resistant Staphylococcus aureus (MRSA) including low level MRSA*

100% Sensitivity / Specificity

CHROMagar introduced a revolution in this field in 2002, with the first chromogenic medium for the detection of Methicillin Resistant *Staphylococcus aureus*: CHROMagarTM 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.

Taguchi et al. 2004. J. Jap. Ass. Infec. Dis. Jan. 54-58.

CHROMagar™ mSuperCARBATM



SC173-25: 25L pack

Plate Reading

- · CPE E.coli
- · Dark pink to reddish
- CPE Coliforms
- Metallic blue
- · Other gram negative CPE → Colourless
- · Other gram negative non-CPE
- → Blue, colourless or inhibited

For the detection of gram negative bacteria with a reduced susceptibility to most carbapenem agents*

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 carbapemases.

Alain Rambach and 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.

Failure to rapidly detect antibiotic resistant gram negative bacteria has contributed to their uncontrolled spread, and sometimes to therapeutic failures. Added to CHROMagarTM Orientation, CHROMagar has introduced a set of selective supplements specially designed for screening gram-negative bacteria which express different kinds of reduced antibiotic susceptibility.



For detection of carbapenem resistant bacteria*

CHROMagar™



For detection of Extended Spectrum **B-Lactamase** producing bacteria*

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

■ CHROMagar™ C3GR CGRT3-25: 25 L pack

For detection of Gram-negative bacteria producing Beta-Lactamase*

CHROMagar™



VR952: 5 L pack VR953-25: 25 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*

95,5% Sensitivity / 90,4% Specificity(7)

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.

M.L. Miller et al Poster P26 CACMID 2011.

CHROMagar™ Acinetobacter



AC092: 5L pack

Plate Reading

 Acinetobacter spp → Red

For detection of Acinetobacter*

94,7% Sensitivity / 91,6% Specificity(8)

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 baumanii, for instance, can penetrate the body through open wounds, catheters, and breathing tubes.

Any effective injection 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.



Plate Residing

For detection and direct differentiation of pathogenic Versinia enteresculitica*

benefiteity: 198% / Specificity: 99%*

Among the toronia genus, terronia enterocolitica is one of the most common total home pathogens. Staditional culture reads, like the CBs againshow for the growth of both pathogenic and non-pathogonic factories with the same aspect resulting in an important workload on inchroate technic fighe positives. south Chitti Intagar or Lantenaciolitica, the pathogenic strains are immediately differentiated from other factoria by a distinctive colony colour. The laboratory will then concentrate its efforts and execute an early on august i colories that have a real potential of goathrageomicity.

For detection and indution of falmonells

ture Helly AV to a compared to 76% with Heldown Again

Communicated mode for the detection of Salmonelle by \$425 character have very given appearing by excelling in mammanage false positions (Chockardar Product, etc.) arrong the rare, real promos Salmonally. The workingd for anner essary examination of suspect extintion is no heavy that real quantities believerable explorate might when he associatable in souther tening. Because of their peer specificity, commentional modes require a tedings examination of at least 16 columns per suspented sample. On the contrary, CHROMagar's Salmanatle aliminates most of those false positives and allows within turn to force on the real contaminated samples.

Cartler Coller of 1999, Jugenal of Clanical International St., 200, 200

CHROMagar™ Salmonella

- Blue, colourless

Plate Reading

LIM RambaQUICK agar StrepB



18282: 5 L pack 1283-25: 25 L pack



Plate Reading

Plate Reading

E.coli serotypes

· Colourless, blue

+ Mauve

or inhibited

- · Group B Streptococcus
- → Mauve
- Other microorganism
- → Blue, colourless or inhibited

Most common Shiga-Toxin

* Other Enterobacteriacae

For isolation and differentiation of Streptococcus agalactiae (GBS)*

Sensitivity: 92% / Predictivity: 95% "

Group B Streptococcus (GBS) has been associated with severe neonatal infections such as septicarmia and meningris. The detection of vaginal colonisation by CBS in pregnant women is the most effective strategy to prevent necessarial infections.

LIM RambaQUICK** Strep® Method is a powerful screening tool, which combines a selective enrichment broth with a highlispecific and sensitive medium, allowing detection of CBS (haemolytic as well as non-haemolytic) while inhibiting the Enterococci.



** Polyson et al., (NAM 84 (2011) 490-491

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

89,1% Sensitivity / 91,4% Specificity

An increasing and worrisome number of studies show that, non-O137 ShigaToxin producing Ecoli (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^{tox} 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.

** Malika Gossali, François-Xavier Weill er al JCM 2012

CHROMagar™ STEC

● CHROMagar™ Staphylococcus



CQ382: 5 L pack

Plate Reading

- → Mauve
- * Other bacteria
- Blue, colourless or inhibited

For detection and isolation of Staphylococcus spp.

Staphylococci in general (not only S.aureus) can become pathogenic in specific circumstances. For instance, coagulase-negative Staphylococci (CoNS) are the most frequently isolated microorganisms in blood cultures. Despite their frequency as contaminants, CoNS have become important nosocomial pathogens.

CHROMagar™ Staphylococcus allows for a selective isolation of Staphylococci and differentiation by the colony colours.

Food Industry CHROMagar™ Campylobacter

Plate Reading

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

For the detection, differentiation and enumeration of thermotolerant Campylobacter

Campylobacter is a major cause of foodborne diarrheal deseases in humans and the most common bacterial cause of gastroenteritis around the world.

With CHROMagar™ Campylobacter, the detection of thermotolerant 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.



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

Plate Reading

- · Salmonella
- · Red
- · Many Coliforms
- → Blue, violet
- · Proteus, etc.

For detection and isolation of Salmonella species in clinical and food samples

93,7% Sensitivity

Traditional media for detection of Salmonella had a very poor specificity. The workload of unnecessary examinations of suspect colonies was so high that real positive Salmonella colonies were often missed in routine testing.

RambachTM Agar eliminates most false positives.

Since RambachTM Agar has a very high specificity: (1) fewer samples are positive and have to be checked and (2) there is no more need to investigate 10 different suspect colonies per

Gruenewald R. et al. 1991. J. Clin. Microbiol. 29: 2354-2356.

RambaQUICK™ Salmonella



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

■ CHROMagar™ Salmonella Plus



- → Mauve

- → Blue

For detection and isolation of Salmonella species

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. RambaQUICKTM Salmonella Method has been introduced 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. 3



Plate in **CHROMagar** Salmonella Plus 18-24h at 37°C

de Beaumont C. et al. 2006. Poster, ECCMID meeting 2006

■ CHROMagar™ 0157



Plate Reading

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

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

98% Sensitivity for E.coli O15705

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. hermanii, 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.

15 Bettelheim K.A. 1998. J. Appl. Microbiol. 85: 425-428

CHROMagar™ Streptococcus



CQ392: 5 L pack

Plate Reading

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

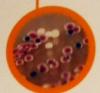
For detection and isolation of Streptococcus spp.

In the Mastitis management of milking cow herds it is important to rapidly detect the presence of Streptococci and differentiate between environmental Streps (S.uberis, S.dysgalactiae) from contagious pathogens like S.agalactiae and Enterococci from faecal origin.

CHROMagar™ Streptococcus is a useful tool to analyse the Streptococci flora in Mastitis investigations.

Food Industry

CHROMagar™ Vibrio



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

Plate Reading

- + Mauve
- + Green blue to turquoise blue
- → Colourless

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

V.parahaemolyticus, V.vulnificus & 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 & V.cholerae, from other Vibrio directly at the isolation step by colony colour with a higher sensitivity than conventional methods.

Angela Di Pinto Universită degli Studi di Bari Aldo Moro, Italy

For detection of Esakazakii (Cronobacter spp) according to the ISO/TS 22964 standard requirements

Enterobacter sakazakii is a gram-negative, non-spore-forming bacterium belonging to the Enterobacteriaceae family. It has been implicated in outbreaks causing meningitis or enteritidis, especially in infants.

CHROMagar™ E.sakazakii is a chromogenic medium for detection of E.sakazakii in food, mainly powdered milk, according to the ISO/TS 22964 standard.



CS812: 5 L pack

Plate Reading

- · E.sakazakii
- → Green to blue
- · Other Gram (-)
- → Inhibited, colourless or light purple/translucent colonies
- · Gram (+) bacteria
- → Inhibited





Product code CHROMagar Listeria LM851: 1 L pack / LM852: 5 L pack



Product code CHROMagor Identification Listeria LK970: 250 ml pack

Isolation Plate Reading

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



Confirmation Plate Reading

- L.monocytoger
- → Rose surrounded by a white halo

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

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

On CHROMagarTM Listeria, Lmonocytogenes 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 was validated by AFNOR. 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.

⁰⁷⁾ AFNOR validation study, Coignard M. 2005. ref CHR-21/1-12/01

CHROMagar™ **B.cereus**



8C732: 5 L pack

Plate Reading

- → Blue with white halo
- → Blue, colourless, or inhibited
- · Gram negative bacteria
- → Inhibited
- Yeast and moulds
- → Inhibited

For detection and enumeration of Bacillus cereus group

100% Sensitivity / 100% Specificity(18)

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.

Adria Normandie Study 2012

CHROMagar™ C.perfringens



Plate Reading

- Clostridium perfringens
- · Other bacteria
- Grey, colourless or inhibited

For isolation and direct differentiation of Clostridium perfringens

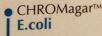
Clostridium perfringens is involved in food poisoning and animals infections. CHROMagar^{IM} C.perfringens allows the detection and numeration of Clostridium perfringens in food and water samples. Specific and selective, this medium detects the Clostridium perfringens colonies by a blue coloration, the other microorganisems being grey, colourless or inhibited.

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

Water Industry

E.coli is a fecal contamination indicator. The general food standard limits are approximately 50 E.coli bacteria per gram, therefore, it is E.coli is a lecal contamination and the state of the stat heavy workload with tests of many suspect colonies.

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





EC166: 5 L pack EC168-25: 25 L pack

Plate Reading

- · E.coli
- → Blue
- · Other gram negative bacteria
- → Colourless
- · Gram positive bacteria
- → Inhibited

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



EF323-25: 25 L pack

Plate Reading · E.coli

- → Blue
- · Other Coliforms
- + Mauve
- · Other bacteria
- · Colourless or inhibited

CHROMagar™ Liquid ECC



EL382: 5 L pack

Plate Reading

- · E.coli
- → Blue
- · Other coliform bacteria
- → Purple
- · Other gram negative bacteria
- → Colourless or inhibited

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

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.

AquaCHROM™



Product code AQ056: 100 x 100ml pack

Reading

- → Blue to Blue-Green Liquid
- · Other Coliforms
- → Yellow Liquid

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

AquaCHROM™ ECC is a non-agar based medium designed to detect the presence of E.coli and other coliforms in 100ml 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.

■ AquaCHROM™ **Enterococcus**



AQ135: 100 x 100ml pack

Reading

- Enterococcus
- → Green





P\$830: 1 L pack P\$832: 5 L pack P\$833-25: 25 L pack

- Other
- → Colourless

Plate Reading

P.aeruginosa

• Gram (+)

· Blue green

• Other Gram (-)

→ Mostly inhibited

· Pseudomonas including

· Mauve to violet, or inhibited

Presence/Absence of Enterococcus in water samples

Liquid Technique

AquaCHROM™ Enterococcus is a non-agar based medium designed to detect the presence of Enterococci in 100ml water samples. Enterococcus is used as a contamination indicator organism for recreational water quality. The important features of this group over the E.coli/coliforms are that they tend to survive longer in water environments and are more resistant to drying and to chlorination.

AquaCHROMTM Enterococcus turns green in the presence of Enterococci.

For isolation and detection of Pseudomonas species

P.aeruginosa is a valid indicator for recreational water disinfection efficacy. This parameter is currently used as a criterion in the regulation of wading and swimming pools. Moreover, P.aeruginosa is important not only in terms of its role as an indicator, but also because it is an opportunistic pathogen whose transmission is often associated with water.

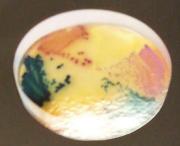
CHROMagar™ Pseudomonas delivers rapid and clear results for detection of Pseudomonas by virtue of markedly different colony colouring.

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 microorganism. 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 enzyme of the target organism, the chromophore is released, and, in it's 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 eve under normal lighting conditions. naked eye under normal lighting conditions.



25L 5L 11

5 Reasons to choose CHROMagar™ Chromogenic Media to bring efficiency to your Microbial Analysis

Fast Results in 18h-24h

Worldwide Recognition

30 years Experience, Specialization and Know-How

Intense Chromogenic Colours

Ask your local distributor for more



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