TM 1635-CHROMOGENIC MeReSA AGAR BASE

INTENDED USE

For isolation and identification of Methicillin resistant *Staphylococcus aureus* from clinical samples.

PRODUCT SUMMARY AND EXPLANATION

While methicillin is very effective in treating most *Staphylococcus* infections, some strains have developed resistance to methicillin and can no longer be killed by this antibiotic. These resistant bacteria are called Methicillin Resistant *Staphylococcus aureus* (MRSA). Over the last four decades, Methicillin-Resistant *Staphylococcus aureus* (MRSA) caused major problems in hospitals throughout the world and become highly endemic in many geographical areas. Classically, MRSA has been a nosocomial problem associated with long hospital stays, numerous or prolonged antibiotic courses, the presence of invasive devices and proximity to an already infected or colonized patients. In addition to their resistance against all β-lactam antibiotics, MRSA strains may be resistant to several other classes of antibiotic, including the aminoglycosides, quinolones, clindamycin and erythromycin. Therefore, infections caused by these strains are serious and difficult to treat.

COMPOSITION

Ingredients	Gms / Ltr
Sodium chloride	40.000
Agar	15.000
Casein enzymic hydrolysate	13.000
Chromogenic mixture	5.300
Sodium pyruvate	5.000
Meat extract	2.500
Yeast extract	2.500

PRINCIPLE

Casein enzymic hydroylsate, Meat extract B and yeast extract provide the essential nutrients along with carbonaceous, nitrogenous and Vitamin B complex nutrients. The chromogenic mixture incorporated in the medium is specifically cleaved by *Staphylococcus aureus* to give bluish green colour colonies. Sodium pyruvate enhances the growth of *Staphylococcus* species. Sodium chloride in the medium helps to maintain the osmotic equilibrium of the medium. High concentration of sodium chloride also helps in inhibiting the accompanying microflora. Cefoxitin is recommended to use for selective isolation of MRSA. The medium is made selective for MRSA by the addition of Chromogenic MeReSa Selective Supplement (TS 206) & Cefoxitin supplement (TS 219) in combination.

INSTRUCTION FOR USE

- Dissolve 41.65 grams in 500 ml distilled water.
- Autoclave it 110^{0}C for 5 Minute.
- DO NOT AUTOCLAVE at 121^{0}C.
- Cool to 45-50°C.
- Aseptically add sterile rehydrated contents of 1 vial of Chromogenic MeReSa Selective Supplement (TS 206) & Cefoxitin supplement (TS 219) for selectivity.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of powder	:	Cream to yellow homogeneous free flowing powder
Appearance of prepared medium	:	Light yellow coloured, clear to slightly opalescent gel
pH (at 25°C)	:	7.0± 0.2

INTERPRETATION

Cultural characteristics observed after incubation with addition of Chromogenic MeReSa Selective Supplement (TS 206) & Cefoxitin Supplement (TS 219) after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Colour of colony	Recovery	Incubation Temp.	Incubation Period
Staphylococcus aureus (MRSA)	43300	50-100	Luxuriant	Pink to purple	>=50%	30-35°C	18-48 Hours
Enterococcus faecalis	29212	≥ 1000	Inhibited	-	0%	30-35°C	18-48 Hours
Escherichia coli	25922	≥ 1000	Inhibited	-	0%	30-35°C	18-48 Hours
Staphylococcus aureus	6538	≥ 1000	Inhibited	-	0%	30-35°C	18-48 Hours
Staphylococcus aureus	25923	≥ 1000	Inhibited	-	0%	30-35°C	18-48 Hours
Staphylococcus epidermidis	12228	≥ 1000	Inhibited	-	0%	30-35°C	18-48 Hours

PACKAGING:

In pack size of 100gm & 500gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

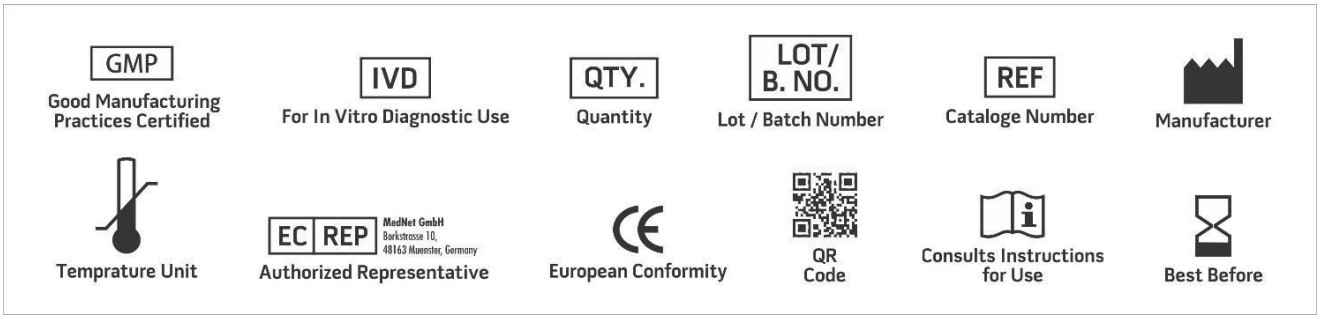
Product Deterioration: Do not use if powder show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Kabir O. Akinyemi., Olukayaode Oladapo., Chidi E. Okwara., Christopher C. Ibe., and Kehinde A. Fasure., 2005, "Screening of crude extracts of six medicinal plants used in South-West Nigerian Unorthodox medicine fro antiMethicillin-Resistant Staphylococcus aureus activity," BMC Complementary and Alternative Medicine., 5(6), pp.1-7.
2. Michelle Thouverez., Arno Muller., Didier Hocquet., Daniel Talon., and Xavier Bertrand., 2003, "Relationship between molecular epidemiology and antibiotic susceptibility of Methicillin-Resistant Staphylococcus aureus (MRSA) in a French teaching hospital," J Med Microbiol., 52, pp.801-806.
3. Sara I. Islam., and Carol Moore., 2002, "Prevalence of Methicillin-resistant Staphylococcus aureus and associated risk factors on admission to a specialist care eye hospital," Annals of Saudi Medicine., 22(3-4), pp.153-157.
4. Durmaz, B., Durmaz, R., and Sahin, K., 1997, "Methicillin-Resistance among Turkish isolates of Staphylococcus aureus strains from nosocomial and community infections and their resistance patterns using various antimicrobial agents," Journal of Hospital Infection., 37, pp.325-329.
5. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
6. Jorgensen,J.H., Pfaller , M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual ofClinical Microbiology, 11th Edition. Vol. 1.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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