TM 1402 – OXACILLIN RESISTANCE SCREENING AGAR BASE

INTENDED USE

For screening oxacillin resistant microorganisms.

PRODUCT SUMMARY AND EXPLANATION

Oxacillin Resistance Screening Agar (originally named MRSA Screen Agar) was originally developed for the detection of methicillin-resistant *Staphylococcus aureus* (MRSA). These strains are resistant to penicillinase-resistant penicillins (PRPs), such as methicillin, oxacillin and nafcillin. Since the method to detect MRSA uses the same inoculum as the Bauer-Kirby antimicrobial disc susceptibility test procedure, the oxacillin screen test may be conveniently performed on isolates at the same time as routine susceptibility testing. The coagulase positive species of Staphylococcus aureus is well documented as a human opportunistic pathogen. As a nosocomial pathogen, *Staphylococcus aureus* has been a major cause of morbidity and mortality. Resistance to penicillin in *S. aureus* was observed soon after the introduction of penicillin in the late 1940s. By the late 1960s, methicillin/oxacillin resistant strains of *S. aureus* began to emerge and has been isolated in the United States. Oxacillin (methicillin) resistant *S. aureus* emerged in 1980s as a major clinical and epidemiological problem in hospitals.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	11.800
Yeast extract	9.000
Mannitol	10.000
Sodium chloride	55.000
Lithium chloride	5.000
Aniline blue	0.200
Agar	12.500

PRINCIPLE

The medium consists of Peptone and yeast extract which provide nitrogenous nutrients. Mannitol is the differential fermentable carbohydrate. Most coagulase-negative species of Staphylococci and Micrococci do not ferment mannitol. High sodium chloride content (5.5%) makes the medium selective. Lithium chloride inhibits many contaminating organisms except for *Staphylococcus aureus*. Aniline blue is an inert and ideal indicator of lipolysis when lipase substrates are added to the medium.

INSTRUCTION FOR USE

- Dissolve 51.75 grams in 500 ml purified / distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool at 45-50°C and aseptically add rehydrated contents of 1 vial of Oxacillin Resistance Selective Supplement.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Yellow to grayish yellow homogeneous free flowing powder.
Appearance of prepared medium : Blue coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 7.2 ± 0.2

INTERPRETATION

Cultural characteristics observed with added Oxacillin Resistance Selective Supplement after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Staphylococcus aureus	29213	>=10^3	Inhibited (susceptible to oxacillin	0%	35-37°C	18-24 Hours
Staphylococcus aureus	38591	50-100	Fair to good (presence of colony or haze of growth should be read as resistance)	20-40%	35-37°C	18-24 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°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 they 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

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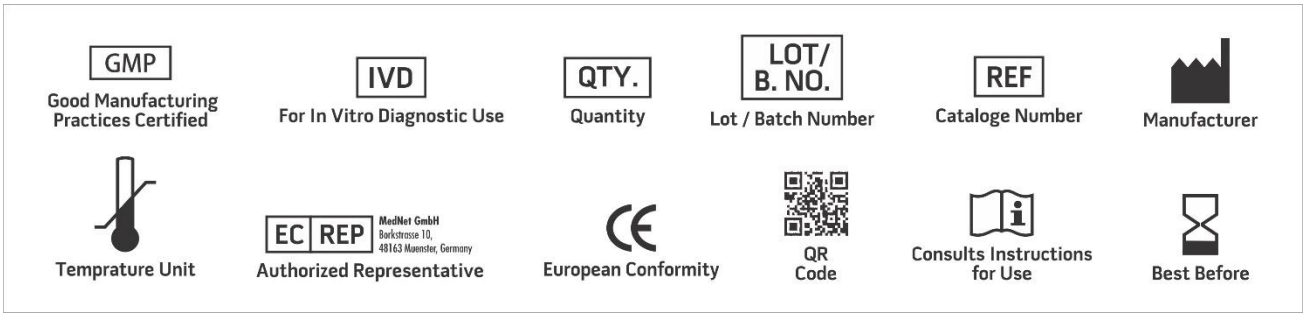

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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