TM 731 – ESCULIN AZIDE BROTH

INTENDED USE

For selective cultivation and identification of Streptococci.

PRODUCT SUMMARY AND EXPLANATION

Esculin Azide Broth is prepared as per the modification of original formula of Isenberg. Enterococci are able to hydrolyze esculin whereas other streptococci are not able to do so. Swan used an esculin medium containing 40% bile salts and reported that a positive reaction on bile esculin medium could be correlated with a serological group D precipitin reaction. Further studies by Facklam and Moody presumptively identified group D Streptococci and found that the bile esculin test provided a reliable means of identifying group D Streptococci and differentiating them from non-group D Streptococci. The present formulation is a modification of Bile Esculin Agar formulated by Isenberg et al in which bile concentration was 40 g/l.

In Esculin Azide Broth, the concentration of bile was reduced to 10 g/l and also additional sodium azide was added. The broth is selective due to presence of bile salts and sodium azide and provides rapid growth of Streptococci.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	20.000
Yeast extract	5.000
Bile salts	10.000
Sodium citrate	1.000
Esculin	1.000
Ferric ammonium citrate	0.500
Sodium azide	0.250

PRINCIPLE

The medium consists of Peptone and yeast extract which provide nitrogenous nutrients to the organisms. Bile salts inhibit other gram-positive bacteria while sodium azide inhibits gram-negative bacteria. Streptococci hydrolyze esculin to esculetin and dextrose. Esculetin and ferric ammonium citrate forms dark brown to black complex, imparting dark brown colour to the broth.

INSTRUCTION FOR USE

- Dissolve 37.75 grams in 1000 ml purified / distilled water.
- Heat if necessary to dissolve the medium completely.
- Dispense in tubes or flasks as desired. Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.

Appearance of prepared medium : Amber coloured, clear solution having slight purplish tinge.

pH (at 25°C) : 7.2 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Esculin hydrolysis	Incubation Temperature	Incubation Period
Enterococcus faecalis	29212	50-100	Good-luxuriant	Positive reaction, blackening of medium	35-37°C	18-24 Hours
Escherichia coli	25922	>=10^3	Inhibited	-	35-37°C	18-24 Hours
Streptococcus bovis	27960	50-100	Good-luxuriant	Positive reaction, blackening of medium	35-37°C	18-24 Hours
Streptococcus pyogenes	19615	50-100	Poor	Negative reaction, no change	35-37°C	18-24 Hours
Proteus mirabilis	25933	50-100	Poor- fair	Negative reaction, no change	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.

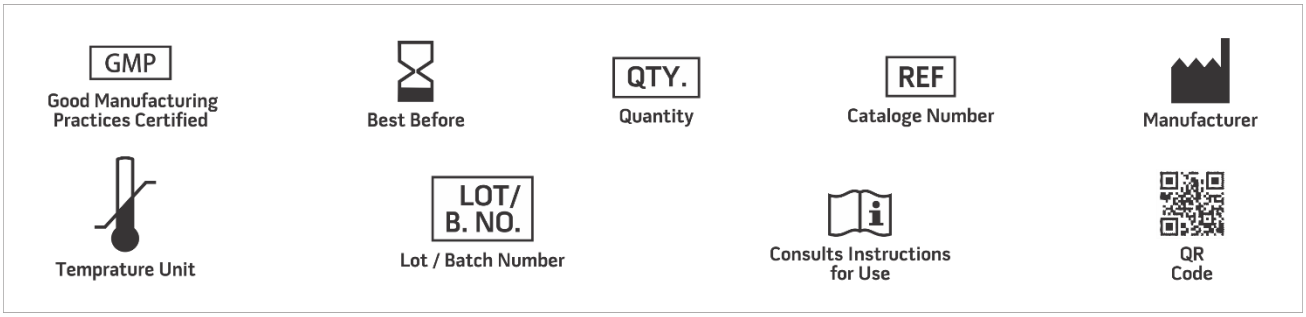
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

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

REFERENCES

1. Facklam R. R. and Moody M. D., 1970, Appl. Microbiol., 20:245
2. Isenberg, 1970, Clin. Lab. Forum.2. Swan A., 1954, J. Clin. Pathol., 7:1603. Facklam R. R. and Moody M. D., 1970, Appl. Microbiol., 20:2451. Isenberg, 1970, Clin. Lab. Forum.
3. Swan A., 1954, J. Clin. Pathol., 7:160.



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

***For Lab Use Only**

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