Revision date: 27/02/2023



Reference: DSHB3111

ALLIANCE
Product :
BIO EXPERTISE EOSIN METHYLENE BLUE AGAR (EMB

AGAR)

Also known as

EMB Agar

Specification

Selective differential medium for the isolation and enumeration of coliforms according to ISO 21150 standard and USP.

Formula * in q/L

Peptone	10,000
Lactose	10,000
Dipotassium phosphate	2,000
Eosin Y	
Methylene blue	0,065
Agar	

Final pH 7.1 ±0,2 at 25 °C

Add 37,5 g to 1 L of distilled water. Bring to the boil and distribute in suitable containers. Sterilize in the autoclave at 121°C for 15 minutes.

Description

A very versatile medium originally developed for the differentiation of E.coli and Enteropacter aerogenes. It has also proved very effective in the rapid identification of Candida albicans and demostrates a high correlation with the coagulase test for staphylococci.

It has been repeatedly recommended for the detection, enumeration and differentiation of members of the coliform group of bacteria.

Technique

The Weld method for the identification of Candida albicans uses this medium with chlortetracycline (100 mg/L) in a 10% CO2 envierment. The method's efficacy has been tested with a variety of samples, such as sputum, oral secretions, faeces, nails and vaginal secretions, all of which provide definitive results within 24-48 hours. Staphylococci are also easily identified, particularly coagulase-positive strains. These have a very characteristic appearance: small colourless colonies with a central red nucleus. The medium's prevailing application is in the differentiation of E. coli and E. aerogenes.

The medium should be sterilized once distributed into tubes containing 20 mL of product each, and then refrigerated. Melt in a boiling water bath before use and stir until it acquires a dark purple colour. Pour a tube into each sterile plate and allow it to solidify. It is advisable to dry the medium's surface before use, leaving the plate open but inverted.

For each doubtful lactose broth tube, inoculate one plate by streaking, and incubate for 24 hours à 35±2°C.

- Escherichia coli and Citrobacter form flat colonies of 2-3 mm in diameter and are dark violet in colour with a black centre which produces a distinctive green metallic sheen when light is reflected on it.
- Enterobacter and Klebsiella form convex colonies which are twice as big as the very smooth E. coli, have no metallic sheen and are pink in colour with a dark blue centre. Non-lactose fermenting organisms produce colourless colonies.
- Candida albicans colonies incubated in a CO2 atmosphere have a very peculiar cotton-like appearance which distinguishes them from other Candida species that produce classical yeast like colonies.

Quality control

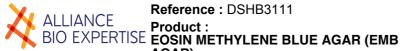
Incubation temperature: 30 - 35 °C Incubation time: 24 - 48 h

Inoculum: Streak isolation or ≥ 103 CFU (specificity) according to ISO 11133:2014/Amd 1:2018. Spiral plate Methods or Loop spreading.

Microorganism	Growth	Remarks
Salmonella abony NCTC® 6017	Good to very good	Colorless colonies w/o green metalic shine
Escherichia coli ATCC® 11775	Good to very good	Dark violet colonies w. green metalic shine
Escherichia coli ATCC® 25922	Good to very good	Dark violet colonies w. green metalic shine
Escherichia coli ATCC® 8739	Good to very good	Dark violet colonies w. green metalic shine
Salmonella typhimurium ATCC® 14028	Good to very good	Colorless ccolonies w/o green metalic shine
Pseudomonas aeruginosa ATCC® 27853	Good to very good	Colorless ccolonies w/o green metalic shine
Candida albicans ATCC® 10231	Good	Cotton-like colonies in CO2

^{*} Adjusted and /or supplemented as required to meet performance criteria

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- ·USP 29 NF 24 (2006) 2nd Suppl. <61> Microbial Tests. USP Con. Inc. Rockville, MD, USA
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For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 °C to 30 °C).