

EOSIN METHYLENE BLUE AGAR, LEVINE (M153) PRODUCT INFORMATION

USE: Eosin Methylene Blue Agar, Levine, conforms with specifications of *The United States Pharmacopeia (USP)*.

Eosin Methylene Blue Agar, Levine is a slightly selective and differential plating medium for the isolation of gram-negative enteric bacteria. EMB Agar, Levine, without Lactose is provided for convenience in genetic studies of enteric bacilli.

DESCRIPTION: Shortly following the publication by Holt-Harris and Teague of a paper describing a new culture medium for the differentiation of enteric microorganisms through the use of eosin and methylene blue dyes,¹ Levine described a modification of their formulation which he claimed gave better differentiation between what are now referred to as *Escherichia* and *Enterobacter* species.² The two formulations differ in that Levine EMB Agar does not contain sucrose. Both of these formulations were developed to improve upon the differentiating properties of Endo Agar³ which was developed previously.

Levine EMB Agar has become the predominant enteric plating medium that utilizes dyes as selective agents. It is recommended for use in the microbiological examination of dairy products and foods by the American Public Health Association.^{4,5} It is recommended in the *USP* for use in the performance of Microbial Limit Tests.⁶ EMB Agar, Levine, without Lactose can be supplemented with a carbohydrate as the sole carbon source for the study of hybrid enteric bacilli.⁷

FORMULA:

Pancreatic Digest of Gelatin	10.0 g/L
Lactose	10.0 g/L
Dipotassium Phosphate	2.0 g/L
Eosin Y	0.4 g/L
Methylene Blue	65.0 mg/L
Agar	15.0 g/L
Total	37.5 g/L

Note: Medium may be adjusted and/or supplemented as required to meet performance criteria.

Final pH: 7.1 ± 0.2 at 25°C

PHYSICAL APPEARANCE:

Dehydrated Appearance – Fine, homogeneous, may contain up to a large amount of minute to small dark red purple particles.

Prepared Appearance – Medium to dark, green orange brown, hazy.

PROCEDURE: Suspend 37.4g of powder in 1L of purified water. Mix thoroughly. Heat with frequent agitation and boil for 1 minute to completely dissolve the powder. Autoclave at 121°C for 15 minutes.

EXPECTED RESULTS: Cultural response after 24 hours at 35°C

Microorganism	CFU	Growth	Colony Color
<i>E. faecalis</i> ATCC™ 29212	10 ⁴ -10 ⁵	Inhibition	-
<i>E. coli</i> ATCC™ 25922	10 ³ -10 ⁴	+	Large, green metallic sheen
<i>S. enterica ser. Typhimurium</i> ATCC™ 14028	10 ³ -10 ⁴	+	Large, colorless
<i>S. flexneri</i> ATCC™ 12022	10 ³ -10 ⁴	+	Large, colorless

STORAGE: Store the product at 2-30°C protected from moisture for up to the expiration date.

LIMITATIONS: For laboratory use only. The dehydrated medium should be discarded if there are any changes in the color or if it is no longer free flowing.

SIZES AVAILABLE: M1531 (37.4), M1532 (500g), M1533 (2Kg), M1534 (10Kg)

PACKAGING: Additional configurations are available upon request.

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