

Mannitol-Egg-Yolk-Polymyxin Agar Base

Catalog : HB0248-5-500

Mannitol-Egg-Yolk-Polymyxin Agar Base is used with 50% Egg Yolk Emulsion and polymyxin B for enumerating *Bacillus cereus* from foods.

Approximate Formula:

Ingredients	gm/liter
Peptone	10.0
D-Mannitol	10.0
Beef extract	1.0
Sodium chloride	10.0
Phenol red	0.025
Agar	15.0
Final pH7.2±0.2 at 25℃	

*Adjusted and/or supplemented as required to meet performance criteria.

Directions:

Suspend 46.0g of the medium in 1000ml of deionized or distilled water. Mix well and heat with frequent agitation. Dispense into 95ml. Sterilize in the autoclave at 121℃ (15 lbs.) for 15 minutes. When cooling to 50℃, add 5ml of 50% yolk emulsion and 10000IU of polymyxin B and shake well. Pour into sterile petri dishes.

Principle and Interpretation:

Peptone and beef powder are used as nutrients in the culture medium to provide carbon source, nitrogen source, vitamin and mineral elements for the growth of thallus. D-mannitol is a carbohydrate and fermentable carbon source; Phenol red is a pH indicator. Agar is the solidifying agent of the medium. 50% Egg Yolk Emulsion provides lecithin, Polymyxin B inhibits the growth of other bacteria. Bacteria fermenting mannitol grow on the medium and produce acid to turn the colony and surrounding medium yellow, while Bacteria that produce lecithin hydrolyze lecithin to form a white precipitating ring around their colony. *Bacillus cereus* is mannitol-negative and lecithin enzyme positive, so its colonies are pink with a white precipitate ring around them.

Appearance:

Dehydrated medium is a free-flowing reddish powder. The prepared medium is a kind of orange opaque gel.

Precautions:

This medium is for laboratory use only. Dried medium which is past shelf life, caking or color variation cannot be used.

Storage conditions and Shelf life:

Mannitol-Egg-Yolk-Polymyxin Agar Base must be stored tightly capped in the original container at 5-30℃. The dehydrated medium has a shelf life of 5 years from date of manufacturing. Prepared medium may be stored, out of direct light at 2-8℃.

Quality control:

Prepare the culture medium as per label directions. Inoculate and incubate at 30±1℃ for 24-48 hours.

Microorganism	Strains Number	Inoculum (CFU)	Growth	Colony colour	Lecithinase reaction(Halos)
<i>Bacillus cereus</i>	ATCC11778	20-200	Luxuriant	Pink	+
<i>Escherichia coli</i>	ATCC25922	> 10 ³	Inhibited	/	/
<i>Bacillus cereus</i>	CMCC 63303	20-200	Luxuriant	Pink	+
<i>Bacillus subtilis</i>	ATCC6633	> 10 ³	Poor	Yellow	-

References:

1. Mossel, Koopman and Jongerius. 1967. Appl. Microbiol. 15:650.
2. Donovan. 1958. J. Appl. Bacteriol. 21:100.
3. Coliner. 1948. J. Bacteriol. 55:777.
4. U.S. Food and Drug Administration. 2001. Bacteriological analytical manual, online. AOAC International, Gaithersburg, Md.
5. Bennett and Belay. 2001. In Downes and Ito (ed.), Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington, D.C.
6. Horwitz (ed.). 2007. Official methods of analysis of AOAC International, 18th ed., online. AOAC International, Gaithersburg, Md.