PRODUCT CODE: 413768

Hektoen Enteric Agar (ISO 21567)(Dehydrated Culture Media) for microbiology

Preparation

Suspend 76 grams of the medium in one litre of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. AVOID OVERHEATING. DO NOT AUTOCLAVE. Cool to 55-60ºC and pour into Petri dishes.

The prepared medium should be stored at 8-15°C. The colour is dusky green. The dehydrated medium should be homogeneous, free-flowing and beige in colour. If there are any physical changes, discard the medium.

Uses

HEKTOEN ENTERIC AGAR is a differential and selective medium used for isolating and differentiating enteric pathogens such as *Salmonella* and *Shigella*, both of which cause a variety of serious human gastrointestinal diseases; and other Gram-negative *Enterobacteriaceae*.

It is used particularly in foods where multi-steps are followed to isolate the pathogens of gastroenteritis. The nutrients for growth are provided by the Meat Peptone and Yeast extract. The increased content of the Peptone and the three fermentable carbohydrates (Lactose, Sucrose, Salicin) as sources of carbon and energy reduce the inhibitory action of the Bile salts on *Salmonella* and *Shigella spp*.

The lactose concentration in this medium is higher than in many other media used for enterics since this helps the visualization of enteric pathogens and minimizes the problem of delayed lactose fermentation. Bromothymol blue and Acid fuchsin are pH indicators. Sodium thiosulfate provides Sulphur, and Ferric ammonium citrate is the indicator for H_2S production.

H_2S positive colonies are black-centered. Sodium chloride maintains the osmotic balance. The specimen is seeded by streaking directly on the surface of the medium, or by is first being enriched in Tetrathionate Broth, Selenite Cystine Broth or GN Broth and incubated at 35± 2°C for 18 - 24 hours.

It is recommended to seed the sample on other selective media at the same time for Enterobacteriaceae because a larger number of positive cultures will be obtained. These media can be, for example, Eosin Methylene Blue Agar, MacConkey Agar, SS Agar, Brilliant Green Agar, Deoxycholate Lactose Agar, or XLD Agar.

Although suppressed, partially inhibited *E. coli* and other organisms which use lactose, sucrose, and/or salicin with the production of acid, give colonies whose tones vary from yellow to orange to salmon. The *Salmonella* and *Shigella* are green or green-blue. Proteus is not inhibited but produces a green-yellow colony when it grows. The colonies of *Proteus* and *Salmonella* may present a black centre and clear edges if they form iron sulfide as a result of H_2S production.

Composition

See in Data Sheet (TDS).

Microbiological Test

The following results were obtained in the performance of the medium from type cultures after incubation at a temperature of 35 ± 2ºC and observed after 18-24 hours.

Microorganism	Growth	Colony Colour	Inoculum (CFU/ml)	Recovery Rate (CFU/ml)
Enterobacter aerogenes ATCC 13048	Acceptable	Orange	10^3-10^5	≥30
Escherichia coli ATCC 25922	Acceptable	Orange	<10^5	Not limited
Salmonella enteritidis ATCC 13076	Good	Blue-green	10^3-10^5	≥20
Salmonella typhimurium ATCC 14028	Good	Blue-green with black centre	10^3-10^5	≥20
Shigella flexneri ATCC 12022	Good	Blue-green	10^3-10^5	≥5
Enterococcus faecalis ATCC 11700	Inhibited	-	>10^5	≥0.01

Storage

Once opened keep powdered medium closed to avoid hydration.

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