

Also known as

HE Agar; HEA

Specification

Solid, selective and differential culture medium for isolation of pathogenic enterobacteria from contaminated samples according to ISO 21567 standard.

Formula * in g/L

Meat peptone.....	12.00		
Yeast extract.....	3.00	Ammonium ferric citrate.....	1.50
Bile salts.....	9.00	Acid fuchsin.....	0.10
Lactose.....	12.00	Bromothymol blue.....	0.06
Sucrose.....	12.00	Agar.....	15.00
Salicin.....	2.00		
Sodium chloride.....	5.00	Final pH 7,5 ±0,2 at 25 °C	
Sodium thiosulfate.....	5.00		

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

Directions

Suspend 77 g of powder in 1 L of distilled water and let it soak. Heat stirring constantly, until boiling. Cool to 55-60°C and pour into sterile plates. Do not autoclave. This medium is very thermolabile and overheating should be avoided.

Description

This culture medium, originally developed by King and Metzger, has a high nutrient content, peptones, fermentable sugars and combination of indicators. All these characteristics and the bile salts make it a very selective and effective medium.

Technique

 In order to avoid the spreading of *Proteus*, it is necessary that the agar surface be perfectly dry à the moment of inoculation. Inoculation must be carried out by surface streaking, directly from rectal swabs or faeces. If colonies are well separated after 18 hours of incubation, the first characteristic appearances or colony morphology may be observed:

- *Shigella* spp., *Proteus inconstans*: Raised colonies, green colour.
- *Salmonella* spp.: Green-blue colonies, with or without black centre.
- *Pseudomonas* spp.: Irregular colonies, plain, green or brown.
- Companion and non pathogenic bacteria: Salmon coloured colonies.

Quality control
Incubation temperature: 37°C ±1,0

Incubation time: 20 - 24 h

Inoculum: 10³-10⁴ CFU (Productivity test qualitative)/ 10⁴-10⁶ CFU (Selectivity) according to ISO 11133:2014/Amd 1:2018.

Microorganism
Growth
Remarks

<i>Enterococcus faecalis</i> ATCC® 29212	Inhibited	Light Pink small colonies
<i>Escherichia coli</i> ATCC® 25922	Partial Inhibited	-
<i>Proteus mirabilis</i> ATCC® 43071	Good	Black colonies, Greenish-Blue medium
<i>Salmonella enteritidis</i> ATCC® 13076	Good	Black colonies, Greenish-Blue medium
<i>Salmonella typhimurium</i> ATCC® 14028	Good	Black colonies, Greenish-Blue medium
<i>Shigella sonnei</i> ATCC® 25931	Good	Green to blue colonies
<i>Shigella flexneri</i> ATCC® 12022	Good	Green to blue colonies

References

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- ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
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Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 °C to 30 °C).