Chaitanya Group Of Industries

ReadyMED®
Dehydrated Cell Culture Media

Technical Data Sheet

Hektoen Enteric Agar RDM-HEA-01

Principle
Hektoen Enteric Agar is consisting protease peptone, yeast extract, bile salt mixture, lactose, sucrose, salicin, sodium chloride, sodium thiosulphate and ferric ammonium citrate and acid fuchsin, bromothymol blue and agar. It resourceful for the recovery rate of *Salmonella sp.* Proteose peptone provides nitrogen, carbon, and amino acids required for organism growth. Yeast extract provide essential carbon, vitamin, nitrogen and amino acids sources. Bile salts inhibit the growth of most Gram-positive organisms. Lactose, salicin and sucrose, serves as carbon source, added in media to boost the growth and differentiation of enteric bacteria. Sodium chloride maintains the osmotic equilibrium. Sodium thiosulfate serves as a source of sulfur. Ferric ammonium citrate added in medium to detect hydrogen sulfide production. Ferric ammonium citrate serves as iron source, and in presence of sodium thiosulphate produce hydrogen sulfide gas to form a black precipitate. The bromothymol blue and acid fuchsin are pH indicators, the bacteria capable of fermenting one or more of the carbohydrates produces yellow- or orange-colored colonies like *Klebsiella pneumoniae*, that ferments lactose. While the Enterobacters that are Non-fermenters will produce blue-green colonies.

Use: Recommended for differential and selective isolation of *Salmonella* and *Shigella species* from enteric pathological specimens.

Contents*

Ingredients	**Gram/Litre**
Protease Peptone	12.00
Yeast Extract	3.00
Bile Salt Mixture	9.00
Lactose	12.00
Sucrose	12.00
Salicin	2.00
Sodium Chloride	5.00
Sodium Thiosulfate	5.00
Ferric Ammonium Citrate	1.50
Acid Fuchsin	0.10
Bromothymol Blue	0.065
Agar	14.00
pH at 25˚C	7.5±0.2

* Formula adjusted for optimum performance and parameters

Directions: Dissolve 75.66 grams in 1000 ml distilled water. Boil to dissolve the medium completely and **Do not autoclave the medium**, cool it to 42-45 °C and distribute aseptically. Ensure complete solidification inoculate test sample aseptically.

Specimens types analyzed
Pharmaceutical samples, clinical and non-clinical samples etc.

Precautions to be taken
These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	Light purple beige colored free flowing, homogeneous powder
Reaction of 7.56% solution	7.5 ±0.2 at 25 ˚C
pH	7.30- 7.70
Gelling	Firm comparable with 1.4% agar gel
Color and clarity of ready medium	Green with yellowish ting colored opalescent gel
Growth Promotion properties	Best at ≤ 100 CFU at 32-37 ºC for 18-72 h
Indicative properties	Optimum at ≤ 100 CFU at 32-37 ºC for 18-48 h
Negative control	Performed using sterile distilled water

Different Microbial Response

Prepare media as per the label directions. Inoculate and incubate at 37 ± 2 ˚C for 18-72h

Organism	Inoculum	Growth	Recovery	Reaction
Salmonella typhi (ATCC 14028)	50-100	Luxurious	70-75%	Bluish green color
Shigella flexneri (ATCC 12022)	50-100	Luxurious	60-70%	Greenish blue color

Storage and Shelf Life

Hygroscopic; keep container tightly closed. Store in cool dry place.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. Atlas, R. M. (2005). *Handbook of media for environmental microbiology*. CRC press.
2. *Difco Manual* (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.
3. Downes F P and Ito K(Eds.), (2001), *Compendium of Methods For The Microbiological Examination of Foods*, 4th Ed.,APHA, Washington, D.C
4. Marshall, R. T. (ed.). (1993). *Standard methods for the microbiological examination of dairy products*, 16th Ed. American Public Health Association, Washington, D.C.
5. Rand, M. C., Arnold E. Greenberg, and Michael J. Taras, (1976), *Standard methods for the examination of water and wastewater*. Prepared and published jointly by American Public Health Association, American Water Works Association, and Water Pollution Control Federation.