

TITAN MEDIA

CHROMOGENIC SALMONELLA AGAR, MODIFIED

TM 1824

For identification and differentiation of *Salmonella* species from Enterobacteriaceae, specifically *Proteus* species

Composition

Ingredients	Gms/Ltr.
Agar	12.00
Casein enzymatic hydrolysate	8.00
Yeast extract	5.00
Sodium chloride	5.00
Chromogenic mixture	4.32
Peptic digest of animal tissue	4.00
Lactose	3.00
Sodium deoxycholate	1.00
Neutral red	0.020

* Dehydrated powder, hygroscopic in nature, store, in a dry place in tightly- sealed containers below 25°C and protect from direct Sunlight.

Instructions for Use

Dissolve 42.34gms in 1000ml of distilled water. Gently heat to boiling with gentle swirling and dissolve the medium completely. **DO NOT AUTOCLAVE**. Cool at 45° - 50°C and mix well to dispense into sterile Petri - plates.

Appearance: Light orange colour, slightly opalescent gel
pH (at 25°C): 7.3 ± 0.2

Principle

CHROMOGENIC SALMONELLA AGAR, MODIFIED is used for identification and differentiation of *Salmonella* species from Enterobacteriaceae, specifically *Proteus* species. *Salmonella enteritidis* and *Salmonella typhimurium* are responsible for about half of all human infections. Most outbreaks of *Salmonella* are traced back to dairy, poultry and meat products, but *Salmonella* can grow on nearly any food. Casein enzymatic hydrolysate, Peptic digest of animal tissue and Yeast extract provides essential nutrients for growth: nitrogen, vitamins, minerals and some essential amino acids. Sodium deoxycholate is good inhibitor for other Gram-positive organisms and suppresses coliform bacteria. Agar acts as the solidifying agent. Sodium chloride is maintains osmotic balance in the medium. Lactose is a carbohydrate source. A chromogenic substrate for a specific esterase enzyme of *Salmonella* that is split with the liberation of an insoluble magenta - red dye. *Salmonella* give pink to red colonies. *E. coli* has a characteristic light purple colour, other enteric gram negative organisms give colourless colonies. Lactose fermenting organisms form light purple to blue violet colonies. Neutral red is a pH indicator.

Interpretation

Cultural characteristics observed after inoculating (10^2 - 10^3 CFU/ml), on incubation at 35 - 37°C for 24 - 48 hour.

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Microorganisms	ATCC	Inoculum (CFU/ml)	Growth	Appearance of colony
<i>Escherichia coli</i>	25922	10 ³	Good	Light purple colour
<i>Salmonella typhimurium</i>	14028	10 ³	Good	Pink towards red colour
<i>Salmonella enteritidis</i>	13076	10 ³	Good	Light purple with halo
<i>Klebsiella pneumoniae</i>	13883	10 ³	Good	Blue to violet colour
<i>Staphylococcus aureus</i>	25923	10 ³	Inhibited	-----
<i>Salmonella typhi</i>	6539	10 ³	Good	Colourless

References

1. A.R. Benett, et al., Evaluation of Rambach Agar and Salmosyst Enrichment for the isolation of Salmonella from foods., Congress-Poster, RAMI, London, September (1993).
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3. Greenberg A.E., Trussel R.R., Clesceri L.S., (Eds.), Standard Methods for the Examination of water and waste water, 16th ed., APHA, Washington, D.C. (1985).
4. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Tenover F. C., (Ed.). Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C. (2003).
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