

TMV 296 - IRON SULPHITE AGAR (VEG.)

INTENDED USE

For detection of thermophilic anaerobic organisms causing sulphide spoilage in foods.

PRODUCT SUMMARY AND EXPLANATION

This medium is prepared by using veg hydrolysate which is free from BSE/TSE risks associated with animal based peptones. Iron Sulphite Veg Agar is the modification of Iron Sulphite Agar which is based on formula of Cameron Sulphite Agar developed by the National Canners Association of America. 0.1% sulphite concentration in the original formula was reported by Beerens to be inhibitory to some strains of *Clostridium sporogenes*. This observation was later on confirmed by Mossel et al, who consequently showed that 0.05% sulphite concentration was not inhibitory to the organisms. For the detection of organisms causing sulphide spoilage either Deep-Shake Culture method or Attenborough and Scarr method may be followed:

In Deep-Shake Culture method, the medium is dispensed in 10 ml amounts in sterile tubes. Sample is inoculated when the medium is at about 50°C and allowed to set. Further incubation is carried out at 55°C for 24-48 hours. Typical thermophilic species of *Desulfotomaculum nigrificans*, produces distinct black spherical colonies in the depth of the medium.

In Attenborough and Scar method, diluted samples of sugar or any other food to be tested are filtered through membrane filters. These filters are then rolled up and placed in tubes containing just sufficient Iron Sulphite Veg Agar (at 50°C) to cover them. The medium is allowed to set and then incubated at 55 - 56°C for 24 - 48 hours. After incubation, the number of black colonies on the membrane filter are counted. This membrane filter technique is quicker, of comparable accuracy and permits the examination of larger samples.

COMPOSITION

Ingredients	Gms / Ltr
Veg hydrolysate	10.0
Sodium sulphite	0.5
Iron (III) Citrate	0.5
Agar	15.0

PRINCIPLE

Veg hydrolysate provides protein, nitrogen and other nutrients necessary to support bacterial growth. Sulphite-reducing bacteria usually produce black colonies as a result of the reduction of sulphite to sulphide, which reacts with the iron (III) salt.

INSTRUCTION FOR USE

- Dissolve 26 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.
Appearance of prepared medium	: Yellow coloured, slightly opalescent gel forms in petri plates.
pH (at 25°C)	: 7.1±0.2

INTERPRETATION



Cultural characteristics observed under anaerobic conditions, after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
<i>Clostridium botulinum</i>	25763	50-100	Luxuriant	≥70%	Black	55-56°C	24-48 Hours
<i>Clostridium sporogenes</i>	19404	50-100	Luxuriant	≥70%	Black	55-56°C	24-48 Hours
<i>Desulfotomaculum nigrificans</i>	19998	50-100	Luxuriant	≥70%	Black	55-56°C	24-48 Hours
<i>Escherichia coli</i>	25922	50-100	Good	40-50%	No blackening	55-56°C	24-48 Hours

PACKAGING:

In pack size of 100 gm and 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Tanner F.W., 1944, "The Microbiology of Foods", 2nd ed., Garrard Press, Illinois, P. 1127.
2. Beerens H., 1958, DSIR, Proc. 2nd Internat. Sym. Food Microbiol., 1957, HMSO, London, P. 235.
3. Mossel D.A.A., Golstein Brouwers G.W.M.V. and de Bruin A.S., 1959, J. Path. Bact., 78:290.
4. Attenborough J. and Scarr M., 1957, J. Appl. Bact., 20:460.



 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 Consults Instructions for Use	 QR Code	

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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