

Iron Sulphite Agar, Modified

Intended Use

Iron Sulphite Agar, Modified is used for the enumeration of sulphite-reducing bacteria growing under anaerobic conditions in compliance with ISO 15213-1:2023 and ISO 11133:2014.

Summary

Iron Sulphite Agar, modified is recommended by ISO for the enumeration of sulphite reducing bacteria. Most Clostridia possess sulfite reductase in their cytoplasm but they are unable to expel them to the exterior. So when H₂S is produced from sulfite, the colony becomes dark due to the formation of precipitates of iron sulfide from citrate.

Principle

Peptone and enzymatic digest of soya provides carbon, nitrogen compounds, vitamins, minerals and amino acids necessary for the growth of organism. Yeast extract serves as a rich reservoir of vitamins especially B-complex vitamins. Ferric ammonium citrate and Sodium disulfite serves as H₂S indicators, wherein *Clostridium perfringens* reduces the sulfite to sulfide which in turn reacts with the iron and forms a black iron sulfide precipitate, seen as black colonies. Agar is the solidifying agent.

Formula*

Ingredients	g/L
Peptone	15.0
Enzymatic Digest of Soya	5.0
Yeast Extract	5.0
Sodium Disulfite, Anhydrous	0.5
Iron (III) Ammonium Citrate	1.0
Agar	15.0
Final pH (at 25°C)	7.6 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability

Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Specimen Collection and Handling

Ensure that all samples are properly labelled.

Follow appropriate techniques for handling samples as per established guidelines.

Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure.

The samples must be stored and tested within the permissible time duration.

After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions

1. Suspend 41.50 g of the powder in 1000 mL purified / distilled water.
2. Heat to boiling to dissolve the powder completely.
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
4. Dispense as desired.

Quality Control

Dehydrated Appearance: Light yellow to brownish yellow coloured, homogenous free flowing powder.

Prepared Appearance: Light amber coloured, slightly opalescent gel forms in petridishes / tubes as butts.

Cultural Response: Cultural characteristics observed after an incubation at 36°C-38°C for 24-48 hours under anaerobic conditions,.

Organism (ATCC)	Growth	Colour of colony
<i>Clostridium sporogenes</i> (19404)	Good	Black
<i>Clostridium botulinum</i> (25763)	Good	Black
<i>Clostridium butyricum</i> (13732)	Good	Black
<i>Clostridium perfringens</i> (13124)	Good	Black
<i>Clostridium perfringens</i> (12916)	Good	Black
<i>Desulfotomaculum nigrificans</i> (19998)	Good	Black
<i>Escherichia coli</i> (8739)	Good	no blackening
<i>Escherichia coli</i> (25922)	Good	no blackening

Interpretation of results

After incubation, black coloured colonies, possibly surrounded by a black zone are counted as sulphite reducing bacteria.

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Microbiology of food and animal feeding stuffs- Horizontal method for the enumeration of sulphite reducing bacteria growing under anaerobic conditions, ISO 15213-1:2023(E).
2. Microbiology of food, animal feeding stuffs and water- Preparation, production, storage and performance testing of culture media, I.S. EN ISO 11133:2014 & A1:2018
3. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201090020500	Dehydrated Culture Media	500 g

 Temperature Limit	 Manufacturer	 Batch Code	 Date of Manufacture	 This way up	 Received on
 Catalogue Number	 Consult Instructions for use	 Use-by Date	 Hygroscopic keep container tightly closed	 Harmful/Irritant/Toxic	 Opened on

Revision: 0126/VER-04

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.