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 15213:2003.

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 H_2S is produced from sulfite, the colony becomes dark due to the formation of precipitates of iron sulfide from citrate.

Principle
Enzymatic Digest of Casein and pancreatic digest of soyabean meal provide nitrogen, 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 citrate ammonium citrate and Disodium sulfite serves as are H_2S 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**
Enzymatic Digest of Casein	15.0
Pancreatic Digest of Soyabean Meal	5.0
Yeast Extract	5.0
Disodium Disulfite	1.0
Ferric 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 2ºC-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 42.00 g of the powder in 1000 mL purified / distilled water.
2. Heat to boiling to dissolve the powder completely.
3. Dispense as desired.
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

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
Clostridium sporogenes (19404)	Good	Black
Clostridium botulinum (25763)	Good	Black
Clostridium butryicum (13732)	Good	Black
Clostridium perfringens (13124)	Good	Black
Clostridium perfringens (12916)	Good	Black
Desulfotomaculum nigrificans (19998)	Good	Black
Escherichia coli (8739)	Good	no blackening
Escherichia coli (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.
2. 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