

Starch Casein Agar

Intended Use

Starch Casein Agar is recommended for detection of saccharolytic marine bacteria.

Summary

Starch Casein Agar (SCA) is used for the detection of saccharolytic marine bacteria and mostly *Actinomycetes*. *Actinomycetes* are fungi-like bacteria forming long filaments that stretch through the soil. They are large group of Gram-positive filamentous and/ or branching Bacilli. *Actinomycetes* have been isolated from terrestrial sources, although the first report of mycelium forming *Actinomycetes* being recovered from marine sediments appeared several decades ago. Marine sediments are known potential sources for isolation of novel *Actinomycetes* yielding new products and are recognized as source of novel antibiotic and anticancer agents. The *Actinomycetes* have an extensive impact on the environment by decomposing and transforming a wide variety of complex organic residues. *Actinomycetes* thus represent an important group of microbes found in environment and plays significant role not only in therapeutic applications but also on recycling of organic matter.

Principle

This medium has starch as the complex carbohydrate source and casein as nitrogen source. The salts of seawater provide complex ionic sources that makes the medium suitable for marine microbial flora and also buffers the medium.

Formula*

| Ingredients | g/L |
|--------------------|-----------|
| Casein Powder | 1.0 |
| Starch | 10.0 |
| Sea Water | 37.0 |
| Agar | 15.0 |
| Final pH (at 25°C) | 7.2 ± 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.

Type of Specimen

Marine isolates.

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 63.00 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. Mix well and pour into sterile petridishes.

Quality Control

Dehydrated Appearance: Off white to yellow coloured, homogenous, free flowing powder.

Prepared Appearance: Off white to yellow coloured, clear to slightly opalescent gel forms in petridishes.

Cultural Response: Cultural characteristics observed after an incubation of 18-48 hours at 35°C-37°C.

| Organism (ATCC) | Growth |
|--------------------------------------|--------|
| <i>Streptococcus limosus</i> (19778) | Good |
| <i>Streptomyces praecox</i> (3374) | Good |
| <i>Vibrio cholerae</i> (15748) | Good |

Performance and Evaluation

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

1. Directions
2. Storage
3. Expiry

Precautions / Limitations

1. Due to nutritional variations, some strains may show poor growth on media.
2. Further biochemical tests must be carried out for confirmation.

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. Wellington, E.M.H. Cross, T. (1983)- Taxonomy of antibiotic producing Actinomycetes and new approaches to their selective isolation. In: "Progress in industrial microbiology?" Bushell, M. E. (eds.). Elsevier, Amsterdam. pp. 36.
2. CRC Handbook Series in Nutrition and Food, 1987 Section G: Diets, Culture Media, Food Supplements- Vol III. Culture Media for Microorganisms and plants by Miloslav Rechcigl, Jr.
3. Weyland, H. (1969). Actinomycetes in North Sea and Atlantic Ocean sediments. Nature 223, 858.
4. Jensen, P.R., Dwight, R. and Finical, W. (1991). Distribution of Actinomycetes in near shore tropical marine sediments, Journal of Applied Environmental Microbiology 57, 1102-1108.
5. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

| Cat No. | Product description | Pack Size |
|--------------|--------------------------|-----------|
| 201190350500 | Dehydrated Culture Media | 500 g |

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|---|--|---|---|---|---|---|
|  Temperature Limit |  Manufacturer |  LOT | Batch Code |  Date of Manufacture |  This way up |  Received on |
| REF Catalogue Number |  Consult Instructions for use |  Use-by Date |  Hygroscopic keep container tightly closed | OO Opened on | | |

Revision: 0825/VER-03

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.