# STARCH HYDROLYSIS AGAR

## INTENDED USE
Remel Starch Hydrolysis Agar is a solid medium recommended for use in qualitative procedures for the detection of amylolytic activity or hydrolysis of starch by a wide variety of organisms.

## SUMMARY AND EXPLANATION
Starch Agar, as described by Vedder in 1915, was originally formulated for cultivating *Neisseria*.[1] Heart Infusion Agar is the base used for Starch Hydrolysis Agar with the addition of soluble starch.[2] This medium is useful for differentiation of *Clostridium perfringens* (positive) from other *Clostridium* spp.[3,4]

## PRINCIPLE
Beef heart infusion and casein peptone supply the nutrients necessary for growth of all but the very fastidious bacteria. Yeast extract provides a source of energy and additional nutritional requirements. Sodium chloride supplies essential electrolytes and maintains osmotic equilibrium. Starch is the substrate which an organism may hydrolyze with the production of amylase.

## REAGENTS (CLASSICAL FORMULA)*

| | | | |
|---|---|---|---|
| Soluble Starch | 20.0 g | Yeast Extract | 5.0 g |
| Casein Peptone | 13.0 g | Beef Heart Infusion | 2.0 g |
| Sodium Chloride | 5.0 g | Agar | 15.0 g |
| | | Demineralized Water | 1000.0 ml |

pH 7.3 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

## PROCEDURE
1. Inoculate Starch Hydrolysis Agar with isolated colonies from a primary isolation medium.
2. Incubate at the appropriate temperature and atmospheric environment for up to 48 hours or longer.
3. When good growth is observed, flood the surface of the agar with Gram Iodine (REF R40056).
4. Observe for the hydrolysis of starch. A positive test is indicated by a clear, colorless zone around the growth. A negative test is indicated by a blue color in the medium indicating starch has not been hydrolyzed.

## INTERPRETATION OF THE TEST
Positive Test - A colorless zone surrounding colonies
Negative Test - No clearing around the colonies; a blue color development remains

## QUALITY CONTROL
All lot numbers of Starch Hydrolysis Agar have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, patient results should not be reported.

| CONTROL | INCUBATION | RESULTS |
|---|---|---|
| *Clostridium perfringens* ATCC® 13124 | Anaerobic, up to 48 h @ 33-37°C | Positive |
| *Clostridium sordellii* ATCC® 9714 | Anaerobic, up to 48 h @ 33-37°C | Negative |

## LIMITATIONS
1. Swarming bacteria such as *Proteus mirabilis* and *Proteus vulgaris* should not be tested on this medium.

## BIBLIOGRAPHY

1. Vedder, J. 1915. Infect. Dis. 16:385.
2. Dowell, V.R., Jr., G.L. Lombard, F.S. Thompson, and A.Y. Armfield. 1977. Media for Isolation, Characterization, and Identification of Obligately Anaerobic Bacteria. U.S. Dept. of H.H.S. and CDC, Atlanta, GA.
3. Dowell, V.R., Jr. and T.M. Hawkins. 1977. Laboratory Methods in Anaerobic Bacteriology, CDC Laboratory Manual. U.S. Dept. of H.H.S and CDC, Atlanta, GA.
4. Murray, P.R., E.J. Baron, M.A. Pfaller, F.C. Tenover, and R.H. Yolken. 1999. Manual of Clinical Microbiology. 7th ed. ASM, Washington, D.C.


Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, specimen collection, storage and transportation, materials required, quality control, and limitations.




IFU 1854, Revised November 25, 2009 Printed in U.S.A.



remel
**12076 Santa Fe Drive, Lenexa, KS 66215, USA**
**General Information: (800) 255-6730 Website: www.remel.com Email: remel@remel.com**
**Local/International Phone: (913) 888-0939 International Fax: (913) 895-4128**