# TM 430 - STARCH AGAR

## INTENDED USE
For detection of starch hydrolysing microorganisms.

## PRODUCT SUMMARY AND EXPLANATION
Starch Agar was formulated by Vedder in 1915, for the cultivation of *Neisseria*. Since then, other media have been developed that are superior to Starch Agar for the isolation of *Neisseria* species, including enriched GC Medium Base. Starch Agar is recommended for the detection of starch hydrolyzing microorganisms from foods and clinical samples. Although the medium was originally formulated to perform the test for the identification of *Bacillus cereus,* it can be applied to any kind of microorganism where starch hydrolysis activity is required to be analyzed.

## COMPOSITION

| Ingredients | Gms / Ltr |
|---|---|
| **Peptone** | 5.000 |
| **Sodium chloride** | 5.000 |
| **Yeast extract** | 1.500 |
| **Beef extract** | 1.500 |
| **Starch, soluble** | 2.000 |
| **Agar** | 15.000 |

## PRINCIPLE
Peptone, yeast extract and Beef extract extract provide nitrogenous compounds, carbon, sulphur, trace elements etc. to the microorganisms. Sodium chloride maintains osmotic equilibrium. Flood the surface of 48 hours old culture on Starch Agar with Grams Iodine. Starch hydrolysis is seen as a colourless zone surrounding the colonies. A blue or purple zone indicates that starch is not hydrolyzed. Size of the clear zone is directly proportional to the starch hydrolyzing activity of the strain under study.

## INSTRUCTION FOR USE
- Dissolve 30 grams in 1000 ml purified/ distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50°C. Mix well and pour into sterile Petri plates.

## QUALITY CONTROL SPECIFICATIONS
**Appearance of Powder** : Cream to yellow homogeneous free flowing powder.
**Appearance of prepared medium** : Yellow coloured slightly opalescent gel forms in Petri plates.
**pH (at 25°C)** : 7.4±0.2

## INTERPRETATION
Cultural characteristics observed after an incubation

| Microorganism | ATCC | Inoculum (CFU/ml) | Growth | Recovery | Starch hydrolysis(on addition of Iodine solution) | Incubation Temperature | Incubation Period |
|---|---|---|---|---|---|---|---|

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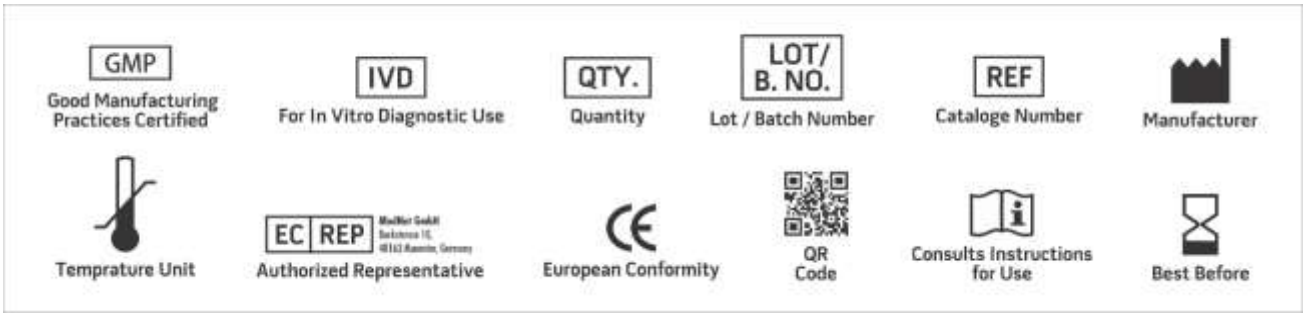
|---|---|---|---|---|---|---|---|
| *Bacillus subtilis subsp. spizizenii* | *6633* | 50-100 | Luxuriant | >=70% | Positive reaction, clearing Around the colony | 35-37°C | 18-48 Hours |
| *Escherichia coli* | 25922 | 50-100 | Luxuriant | >=70% | Negative reaction | 35-37°C | 18-48 Hours |
| *Staphylococcus aureus subsp. aureus* | 25923 | 50-100 | Luxuriant | >=70% | Negative reaction | 35-37°C | 18-48 Hours |
| *Streptococcus pyogenes* | *19615* | 50-100 | Luxuriant | >=70% | Negative reaction | 35-37°C | 18-48 Hours |

**PACKAGING:**
In pack size of 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. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.
2. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
3. Harrigan W. and McCance M., 1976, Laboratory Methods in Food and Dairy Microbiology, Academic Press Inc. (London) Ltd.
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
5. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
6. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Eds.), 2003, Manual of Clinical Microbiology8th Ed., American Society for Microbiology, Washington, D.C.,
7. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
8. Vedder E. B., 1915, J. Infect. Dis., 16:385.




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

***For Lab Use Only**

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