M855

Adams Agar

Intended Use:

Recommended for examination of sporulation in yeasts.

Composition**

Ingredients	Gms / Litre
Dextrose (Glucose)	0.400
Sodium acetate	2.300
Agar	20.000

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 22.7 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Dispense in test tubes. Sterilize by autoclaving at 108-112°C (5-8 lbs respectively) for 15 minutes. Allow the tubes to solidify in a slanted position.

Principle And Interpretation

Sporulation is one of the most important characteristics for yeast taxonomic and genetic studies and makes possible the controlled hybridization of new strains. Sporulation depends on the state of the culture, the suitability of the medium employed and environmental factors (6). The formation of adequate numbers of 4-spored asci in yeasts is essential for genetical analysis, and, as spore viability decreases with age, it is advisable to induce rapid sporulation and transfer spores as soon as possible to a nutrient medium containing sugar. Adams (1) has described a convenient way of obtaining ascospores from Bakers yeast. He described a modified Stantial (1935) acetate medium consisting of low concentrations of glucose, sodium acetate, and agar upon which he obtained high yields of asci with a large number of yeast cultures. Although, in his original experiments, Adams (1949) tested a variety of acetate salts, including potassium acetate, he found none of them superior to sodium acetate in about 0.24 per cent concentration. Dextrose in the medium stimulates sporulation (5). Acetate and dextrose are used as carbon sources.

Type of specimen

Food samples; Brewery samples

Specimen Collection and Handling

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (4).
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance
Off-white to light yellow homogeneous free flowing powder

Gelling
Firm,comparable with 2.0% Agar gel.

Colour and Clarity of prepared medium
Yellow coloured clear gel forms in tubes as slants

Cultural Response
Cultural characteristics observed after an incubation at 30°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth	Sporulation
Saccharomyces cerevisiae ATCC 9763 (00058*)	50-100	luxuriant	positive
# Aspergillus brasiliensis ATCC 16404 (00053*)	50-100	luxuriant	negative
Candida albicans ATCC 10231 (00054*)	50-100	luxuriant	negative
Penicillium notatum ATCC 10108	50-100	luxuriant	negative

Key: (*) Corresponding WDCM numbers. (#) Formerly known as *Aspergillus niger*

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (2,3).

Reference

1. Adams A. M., 1949, Can. J. Res., 27, 179.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
3. 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.
4. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
5. Stantial H., 1935, The Sporulation of Yeast, Trans. Roy. Soc. Can., III, 29, 175-188.
6. Yishan L. in. 1979, Modified Yeast Sporulation Media. American Society of Brewing Chemists Inc. Vol. 37, 66-69.

Revision : 02/2020