

Technical Information

Adams Agar

Product Code: DM 1855

Application: - Adams Agar is recommended for examining sporulation in yeasts.

Composition**

| Ingredients | Gms / Litre |
|----------------|-------------|
| Dextrose | 0.400 |
| Sodium acetate | 2.300 |
| Agar | 20.000 |

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Sporulation is one of the most important characteristics for yeast nomenclature classification and genetic studies thus making possible the controlled hybridization of new strains when discovered. Sporulation depends on the state of the culture, the suitability of the medium employed and environmental factors ⁽¹⁾. The formation of adequate numbers of 4-spored ascospores 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 ⁽²⁾ has described a simple way of obtaining ascospores from Baker's yeast. He described a modified Stantial (1935) acetate medium consisting of low concentrations of glucose, sodium acetate, and agar from which he obtained high yields of ascospores with a large number of yeast cultures. Although, in his original experiments, Adams (1949) tested a different type of acetate salts, including potassium acetate, yet he found none of them was superior to sodium acetate when used at 0.24 per cent concentration.

Dextrose in the medium stimulates sporulation ⁽³⁾. Acetate and dextrose are used as carbon sources.

Methodology

Suspend 22.7 grams of powder medium in 1000 ml distilled water. Shake it well & heat to boil to dissolve the medium completely.

Dispense in test tubes. Sterilize by autoclaving at 108-112°C for 15 minutes. Allow the tubes to solidify in a slanted position.

Quality Control

Physical 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/Characteristics

DM 1855: Cultural characteristics observed after an incubation at 30°C for 18-48 hours.



| Organism | Inoculum (CFU) | Growth | Growth |
|--|----------------|-----------|----------|
| <i>Saccharomyces cerevisiae</i> ATCC 9763 | 50-100 | Luxuriant | positive |
| * <i>Aspergillus brasiliensis</i> ATCC 16404 | 50-100 | Luxuriant | negative |
| <i>Candida albi cans</i> ATCC 10231 | 50-100 | Luxuriant | negative |
| <i>Penicillium notatum</i> ATCC 10108 | 50-100 | Luxuriant | negative |
| *Key: Formerly known as <i>Aspergillus niger</i> ATCC 16404 | 50-100 | Luxuriant | negative |

Storage and Shelf Life

Dried media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

1. Yishan L. in. 1979, Modified Yeast Sporulation Media. American Society of Brewing Chemists Inc. Vol. 37, 66-69.

2. Adams A. M., 1949, Can. J. Res., 27, 179.

3. Stantial H., 1935, The Sporulation of Yeast, Trans. Roy. Soc. Can., III, 29, 175-188.

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