



## Adams Agar

M855

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

### Directions

Suspend 22.7 grams in 1000 ml distilled water. Heat to boiling 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.

### 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 (1). 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 (2) 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 (3). Acetate and dextrose are used as carbon sources.

### 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.

#### Cultural Response

Organism	Inoculum (CFU)	Growth	Sporulation
<b>Cultural Response</b> <i>Saccharomyces cerevisiae</i> ATCC 9763	50-100	luxuriant	positive
* <i>Aspergillus brasiliensis</i> ATCC 16404	50-100	luxuriant	negative
<i>Candida albicans</i> ATCC 10231	50-100	luxuriant	negative
<i>Penicillium notatum</i> ATCC 10108	50-100	luxuriant	negative

\*Key: Formerly known as *Aspergillus niger*

## Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

## Reference

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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