

Technical Information

SD Growth Medium w/o HIS

Product Code: G1064

SD Growth Medium w/o HIS is a synthetic defined agar media for the growth of *Saccharomyces cerevisiae*.

Composition**

| Ingredients | Grams/Litre |
|--------------------------------|-------------|
| Potassium dihydrogen phosphate | 1.00 |
| Magnesium sulphate | 0.50 |
| Sodium chloride | 0.10 |
| Calcium chloride | 0.10 |
| Biotin | 0.002 gm |
| Calcium pantothenate | 0.4 mg |
| Folic acid | 0.002 mg |
| Inositol | 2.00 mg |
| Niacin | 0.4 mg |
| PABA | 0.2 mg |
| Pyridoxin, HCl | 0.4 mg |
| Riboflavin | 0.2 mg |
| Thiamine HCl | 0.4 mg |
| Boric acid | 0.5 mg |
| Copper sulphate | 0.04 mg |
| Potassium iodide | 0.1 mg |
| Ferric chloride | 0.2 mg |
| Manganese sulphate | 0.4 mg |
| Sodium molybdate | 0.2 mg |
| Zinc sulphate | 0.4 mg |
| Ammonium sulphate | 5.00 |
| Dextrose | 20.00 |
| Adenine | 0.010 |
| L-Arginine HCl | 0.050 |
| L-Aspartic acid | 0.080 |
| L-Isoleucine | 0.050 |
| L-Leucine | 0.100 |
| L-Lysine HCl | 0.050 |
| L-Methionine | 0.020 |
| L-Phenylalanine | 0.050 |
| L-Threonine | 0.100 |
| L-Tryptophan | 0.050 |
| L-Tyrosine | 0.050 |
| Uracil | 0.020 |
| L-Valine | 0.140 |

** Formula adjusted, standardized to suit performance parameters

Methodology

Suspend 27.47 grams in 1000 ml distilled water. Sterilize by autoclaving at 10 lbs pressure (115°C) for 20 minutes. Mix well and dispense as desired.

Principle and Interpretation

SD Growth Medium w/o HIS is a synthetic defined agar media for the selective growth of *Saccharomyces cerevisiae*. Synthetically Defined media known as Yeast Nitrogen Base Media for the growth of Yeast cells were first cited by Wickerham (1, 2). SD Growth Medium w/o HIS includes a yeast nitrogen base along with ammonium sulfate, and dextrose as the carbon source, which is further supplemented with various amino acids except histidine which makes it a dropout growth medium for yeast cells. A histidine auxotrophic yeast mutant cannot grow on this media but a wild-type or a histidine prototrophic yeast strain can grow. The histidine auxotroph has a mutation in a gene (e.g. *HIS3*) of the histidine synthesis pathway and this mutant strain will grow in this medium if histidine is supplied from outside e.g. from a plasmid which contains *HIS3* gene (3). For this purpose, a *his3* mutant strain of *S. cerevisiae* is transformed with a *HIS3* containing plasmid and the transformants can be selected by growing the cells on SD Growth Media w/o HIS. Hence this medium is very useful in molecular genetics.

Quality control

Appearance of Powder :

Off white to cream colored, homogeneous, free flowing powder.

Colour and Clarity :

Light yellow coloured, clear solution.

Cultural Response :

Cultural characteristics observed after an incubation at 25-30°C for 18 - 48 hours.

Organisms (ATCC)

Saccharomyces cerevisiae ATCC 9763

Growth

good-luxuriant

Storage and Shelf Life

- Upon receipt, store at 2 - 8°C. Use before expiry date on the label.

Reference

1. Wickerham L. J., 1951, U.S. Dept. Agric. Tech. Bull. No. 1029
2. Wickerham L. J., 1946, J. Bacteriol., 52:293
3. Kaiser, C., et al. Methods in Yeast Genetics Cold Spring Harbor, (1994)

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- User must ensure suitability of the product(s) in their application prior to use.
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