

Technical Information

SDA Growth Medium w/o ADE-HIS-LEU-TRP

Product Code: G1080

SDA Growth Medium w/o ADE-HIS-LEU-TRP is a synthetic defined agar media for the selective 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 |
| L-Arginine HCl | 0.050 |
| L-Aspartic acid | 0.080 |
| L-Isoleucine | 0.050 |
| L-Lysine HCl | 0.050 |
| L-Methionine | 0.020 |
| L-Phenylalanine | 0.050 |
| L-Threonine | 0.100 |
| L-Tyrosine | 0.050 |
| Uracil | 0.020 |
| L-Valine | 0.140 |
| Agar | 15.00 |

** Formula adjusted, standardized to suit performance parameters

Methodology

Suspend 42.31 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

SDA Growth Medium w/o ADE-HIS-LEU-TRP 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). SDA Growth Medium w/o ADE-HIS-LEU-TRP 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, leucine and tryptophan. Furthermore, the medium is devoid of adenine, the purine derivative. This makes it a dropout growth medium for yeast cells. This media also contains agar. An adenine, histidine, leucine and tryptophan auxotrophic yeast mutant strain cannot grow on this media but a wild-type or an adenine, histidine, leucine and tryptophan prototrophic yeast strain can grow. The adenine, histidine, leucine and tryptophan auxotroph has mutation in the genes (e.g. *ADE2*, *HIS3*, *LEU2* and *TRP1*) of the adenine, histidine, leucine as well as tryptophan synthesis pathway and this mutant strain will grow in this medium if adenine, histidine, leucine and tryptophan are supplied from outside e.g. from plasmids which contain *ADE2*, *HIS3*, *LEU2* and *TRP1* gene (3). For this purpose, an *ade2his3leu2trp1* mutant strain of *S. cerevisiae* is transformed with *ADE2*, *HIS3*, *LEU2* and *TRP1* containing plasmid and the transformants can be selected by growing the cells on SDA Growth Medium w/o ADE-HIS-LEU-TRP.

Quality control

Appearance of Powder :

Light yellow coloured, homogeneous, free flowing powder.

Gelling :

Firm, comparable with 1.5% Agar gel.

Colour and Clarity :

Light yellow coloured, clear to slightly opalescent gel forms in Petri plates.

Cultural Response :

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

Organisms (ATCC)

Saccharomyces cerevisiae

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)

Disclaimer :

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