

Technical Information

SDA Growth Medium w/o LEU

Product Code: G1073

SD Growth Medium w/o LEU is a synthetic defined 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-Histidine HCl	0.020
L-Isoleucine	0.050
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
Agar	15.00

** Formula adjusted, standardized to suit performance parameters

Methodology

Suspend 42.39 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 LEU 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 LEU includes a yeast nitrogen base along with ammonium sulfate, and dextrose as the carbon source, which is further supplemented with various amino acids except leucine which makes it a dropout growth medium for yeast cells. A leucine auxotrophic yeast mutant cannot grow on this media but a wild-type or a leucine prototrophic yeast strain can grow. The leucine auxotroph has a mutation in a gene (e.g. *LEU2*) of the leucine synthesis pathway and this mutant strain will grow in this medium if leucine is supplied from outside e.g. from a plasmid which contains *LEU2* gene (3). For this purpose, a *leu2* mutant strain of *S. cerevisiae* is transformed with a *LEU2* containing plasmid and the transformants can be selected by growing the cells on SDA Growth Media w/o LEU. Hence this medium is very useful in molecular genetics.

Quality control

Appearance of Powder :

Off-white to 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 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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