

Technical Information

SD Growth Medium w/o HIS-LEU-TRP-URA

Product Code: G1072

SD Growth Medium w/o HIS-LEU-TRP-URA 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-Isoleucine	0.050
L-Lysine HCl	0.050
L-Methionine	0.020
L-Phenylalanine	0.050
L-Threonine	0.100
L-Tyrosine	0.050
L-Valine	0.140

** Formula adjusted, standardized to suit performance parameters

Methodology

Suspend 27.30 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-LEU-TRP-URA is a synthetic defined 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). Synthetic defined Growth Medium w/o HIS-LEU-TRP-URA 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 uracil, the pyrimidine derivative. This makes it a dropout growth medium for yeast cells. A histidine, leucine, tryptophan and uracil auxotrophic yeast mutant strain cannot grow on this media but a wild-type or a histidine, leucine, tryptophan and uracil prototrophic yeast strain can grow. The histidine, leucine, tryptophan and uracil auxotroph has mutation in the genes (e.g. *HIS3*, *LEU2*, *TRP1* and *URA3*) of the histidine, leucine, tryptophan and as well as uracil synthesis pathway and this mutant strain will grow in this medium if histidine, leucine, tryptophan and uracil are supplied from outside e.g. from plasmids which contain *HIS3*, *LEU2*, *TRP1* and *URA3* gene (3). For this purpose, a *his3leu2trp1ura3* mutant strain of *S. cerevisiae* is transformed with *HIS3*, *LEU2*, *TRP1* and *URA3* containing plasmid and the transformants can be selected by growing the cells on SD Growth Medium w/o HIS-LEU-TRP-URA.

Quality control

Appearance of Powder :

White to cream coloured, homogeneous, free flowing powder.

Colour and Clarity :

Light yellow coloured, clear solution without any precipitate.

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)

Disclaimer :

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