DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, w: 1.0 mM Sodium pyruvate

820300a

DMEM (Dulbecco's Modified Eagle Medium) is a highly versatile and widely utilized basal medium designed to support the growth of a diverse range of mammalian cells in biological research. It serves as an ideal medium for culturing primary fibroblasts, neurons, glial cells, HUVECs, smooth muscle cells, as well as popular cell lines like HeLa, 293, Cos-7, and PC-12.

What sets DMEM apart from other media is its unique composition. It contains an impressive fourfold increase in amino acid and vitamin concentration compared to the original Eagle's Minimal Essential Medium. Initially developed with low glucose (1 g/L) and sodium pyruvate, DMEM is frequently employed with higher glucose levels, either with or without sodium pyruvate. Notably, DMEM does not contain proteins, lipids, or growth factors, necessitating supplementation. To achieve optimal growth, a common approach is to supplement DMEM with 10% Fetal Bovine Serum (FBS). Additionally, DMEM employs a sodium bicarbonate buffer system, requiring a 5-10% CO_2 environment to maintain a physiological pH.

Dulbecco's Modified Eagle Medium (DMEM) is highly regarded among defined media for cell and tissue culture, catering to the growth needs of various adherent cell phenotypes. It surpasses the original Eagle's Medium, developed in the 1950s for cultivating chicken cells, through the enhanced supplementary formulation known as Dulbecco's modification. This modification significantly elevates the content of select amino acids and vitamins up to fourfold compared to the original medium.

In the field of cell culture, DMEM plays a vital role as a growth medium for different cell types, including primary cells, stem cells, and transformed cells. Researchers also employ the modified version of DMEM for a wide array of research applications, such as drug discovery, tissue engineering, and the study of cell signaling pathways.

Quality Control

Sterile-filtered

Storage and Shelf Life

Store at +2°C to +8°C, protected from light.

Once opened, store at 4°C and use within 6–8 weeks.

Shipping Conditions

Ambient temperature

Maintenance

Keep refrigerated at +2°C to +8°C in the dark. Avoid freezing and frequent warming to +37°C, as it reduces product quality.

Do not heat the medium beyond 37°C or use uncontrolled heat sources such as microwave appliances.

If only part of the medium is to be used, remove the required amount and warm it to room temperature before use.

Composition

Category

Components

Concentration (mg/L)

Amino Acids

Glycine

30.00

L-Arginine HCl

84.00

L-Cystine 2 HCl

62.57

L-Glutamine

584.00

L-Histidine HCl H_2O

42.00

L-Isoleucine

105.00

L-Leucine

105.00

L-Lysine HCl

146.00

L-Methionine

30.00

Cytion GmbH
Nikola-Tesla-Str. 3
69124 Heidelberg
Tel: +49 (0)6221 405780
info@cytion.com
cytion.com

Registered office Heidelberg
VAT ID: DE283292917
Local court Mannheim - HRB 714394
CEO / Geschäftsführer: Jonathan Steubing

Banking information
Sparkasse Heidelberg
IBAN: DE35 6725 0020 0009 2076 86
BIC: SOLADES1HDB

L-Phenylalanine
66.00
L-Serine
42.00
L-Threonine
95.00
L-Tryptophan
16.00
L-Tyrosine 2 Na $2H_2O$
103.79
L-Valine
94.00
Vitamins
Choline chloride
4.00
D-Calcium Pantothenate
4.00
Folic Acid
4.00
myo-Inositol
7.20
Nicotinamide
4.00
Pyridoxal HCl
4.00
Riboflavin
0.40
Thiamine HCl
4.00
Inorganic Salts
$CaCl_2$ 2 H_2O
265.00
$Fe(NO_3)_3$ 9 H_2O
0.10
KCl
400.00
$MgSO_4$ $7H_2O$
200.10
NaCl
6400.00
$NaHCO_3$
3700.00
NaH_2PO_4 $2H_2O$
141.73
Other Components
D-Glucose
4500.00
Phenol Red Sodium Salt
15.90
Sodium Pyruvate
110.00

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