

Product Information

Dulbecco's Modified Eagle's Medium/ Ham's Nutrient Mixture F12

with 3151 mg/L dextrose, with with 2.5 mM L-glutamine, with 55 mg/L sodium pyruvate

CATALOG NO. 51448C

Description

Studies to determine the nutritional requirements of many cells have been in progress since Eagle's first reports. The major essential nutrients were identified and work became focused on the media requirements of individual cell types. Many media designed for these purposes are now available. Among the first of these media, developed initially to study hormonal requirements of cells in culture, was a mixture of Dulbecco's Modified Eagle's Medium and Ham's Nutrient Mixture F12, known as DMEM/F12.

Precautions

Use aseptic technique when handling or supplementing this medium. This product is for further manufacturing use. THIS PRODUCT IS NOT INTENDED FOR HUMAN OR THERAPEUTIC USE.

Storage

Store medium protected from light at 2 to 8 C. Do not freeze. Do not use after the expiration date.

Indications of Deterioration

Medium should be clear of particulates and flocculent material. Do not use if liquid medium is cloudy or contains precipitate. Other evidence of deterioration may include color change or degradation of physical or performance characteristics.

Preparation Instructions

Supplements, such as antibiotics, can be added to the sterilized solution using aseptic technique. Storage conditions and shelf life of the supplemented product may be affected by the nature of the supplements. Sterile serum should not be refiltered before or after being added to sterile medium because growth promoting capacity may be reduced upon refiltration.

Formulation

Component (all components measured in mg/L)	
INORGANIC SALTS	
Calcium chloride anhydrous	116.610
Cupric sulfate pentahydrate	0.00125
Ferric nitrate nonahydrate	0.050
Ferrous sulfate heptahydrate	0.417
Magnesium chloride anhydrous	28.610
Magnesium sulfate anhydrous	48.840
Potassium chloride	311.800
Sodium bicarbonate	2438.000
Sodium chloride	6999.500
Sodium phosphate dibasic anhydrous	71.020
Sodium phosphate monobasic monohydrate	62.500
Zinc sulfate heptahydrate	0.4315
VITAMINS	
Biotin	0.00365
D-calcium pantothenate	2.240
Choline chloride	8.980
Cyanocobalamin	0.680
Folic acid	2.650
i-inositol	12.600
Niacinamide	2.0185
Pyridoxine HCl	2.031
Riboflavin	0.219
Thiamine HCl	2.170
AMINO ACIDS	
L-alanine	4.455
L-arginine HCl	147.500
L-asparagine monohydrate	7.500
L-aspartic acid	6.650
L-cysteine HCl monohydrate	17.560
L-cystine 2HCl	31.290
L-glutamic acid	7.350
L-glutamine	365.000
Glycine	18.750
L-histidine HCl monohydrate	31.480
L-isoleucine	54.470
L-leucine	59.050
L-lysine HCl	91.250
L-methionine	17.240
L-phenylalanine	35.480
L-proline	17.250
L-serine	26.250
L-threonine	53.450
L-tryptophan	9.020
L-tyrosine 2Na dihydrate	55.790
L-valine	52.850
OTHER	
Dextrose anhydrous	3151.000
Hypoxanthine sodium salt	2.390
Linoleic acid	0.042
DL- α -Lipoic acid	0.105
Phenol red sodium salt	8.6022
Putrescine 2HCl	0.081
Sodium pyruvate	55.000
Thymidine	0.365

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Characteristics

Appearance

Clear red solution

Endotoxin (LAL)

≤ 1.0 EU/mL

Osmolality (as supplied)

290 - 330 mOsm/kg H₂O

pH (as supplied)

7.0 - 7.4

Sterility

No microbial growth detected

References

1. Barnes, D. and Sato, G. H., *Cell* (1980) 22:649.
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4. Morton, H. J., *In Vitro* (1970) 6:89.
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