

# Product Information

## Glutamine-Free Media — Iscove's Modified Dulbecco's Medium

with 25 mM HEPES, without L-glutamine

CATALOG NO. 51472C

### Description

The GS System™ uses the Glutamine Synthetase (GS) gene as a selectable marker for the expression of recombinant proteins in mammalian cells, especially NS0 and CHO cells. Cell lines transfected with the GS gene are selected on the basis of their ability to grow in glutamine-free medium. The system has significant advantages in speed and efficiency of cell line development resulting in high productivity of antibodies and other recombinant proteins.

A glutamine-free formulation of Iscove's Modified Dulbecco's Medium (IMDM) is available for the growth of NS0 and CHO cells containing the GS expression system. Cells cultured in this medium require supplementation with GS Supplement 50X (Catalog No. 58672C), which is a mixture of amino acids and nucleosides, and Fetal Bovine Serum (FBS) that has been dialyzed (Catalog No. 12117C).

### 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 medium is cloudy or contains precipitate. Other evidence of deterioration may include color change, pH shift or degradation of physical or performance characteristics.

### Formulation

Component (all components measured in mg/L)	
<b>INORGANIC SALTS</b>	
Calcium chloride anhydrous	165.000
Magnesium sulfate anhydrous	97.670
Potassium chloride	330.000
Potassium nitrate	0.076
Sodium bicarbonate	3024.000
Sodium chloride	4505.000
Sodium phosphate monobasic monohydrate	125.000
Sodium selenite	0.0173
<b>VITAMINS</b>	
Biotin	0.013
D-calcium pantothenate	4.000
Choline chloride	4.000
Cyanocobalamin	0.013
Folic acid	4.000
i-inositol	7.200
Niacinamide	4.000
Pyridoxal HCl	4.000
Riboflavin	0.400
Thiamine HCl	4.000
<b>AMINO ACIDS</b>	
L-alanine	25.000
L-arginine HCl	84.000
L-asparagine monohydrate	28.400
L-aspartic acid	30.000
L-cystine 2HCl	91.240
L-glutamic acid	75.000
Glycine	30.000
L-histidine HCl monohydrate	42.000
L-isoleucine	105.000
L-leucine	105.000
L-lysine HCl	146.000
L-methionine	30.000
L-phenylalanine	66.000
L-proline	40.000
L-serine	42.000
L-threonine	95.000
L-tryptophan	16.000
L-tyrosine 2Na dihydrate	103.790
L-valine	94.000
<b>OTHER</b>	
Dextrose anhydrous	4500.000
HEPES	5958.000
Phenol red sodium salt	15.930
Sodium pyruvate	110.000

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## 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.

## Characteristics

### Appearance

Clear orange-red solution

### Endotoxin

≤ 1.0 EU/mL

### Osmolality (as supplied)

260 - 300 mOsm/kg H<sub>2</sub>O

### pH (as supplied)

6.8 - 7.2

### Sterility

No microbial growth detected

## References

1. Guilbert, L. and Iscove, N., *Nature* (1976) 36:405.
2. Iscove, N. and Melchers, F., *J Exp Med* (1978) 199:519.
3. Cockett, M. I., Bebbington, C. R., and Yarranton, G. T., *Bio/Technology* (1990) 8:662.
4. Brown, M. E., Renner, G., et al. *Cytotechnology* (1992) 9:231.
5. Bebbington, C. R., Renner, G., et al., *Bio/Technology* (1992) 10:169.

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