

# Product Information

## GS Supplement 50X

CATALOG NO. 58672C

### 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. The system has been shown to have significant advantages with respect to speed and efficiency of cell line development and has resulted in high productivity for antibodies and other recombinant proteins.

Cell lines transfected with the GS gene are selected on the basis of their ability to grow in glutamine-free medium. Glutamine-free formulations of Dulbecco's Modified Eagle's Medium (DMEM), Glasgow's Modified Eagle's Medium (GMEM) and Iscove's Modified Dulbecco's Medium (IMDM) are available for the growth of NS0 and CHO cells using the GS expression system. Cells cultured in one of these media require supplementation with GS Supplement (a mixture of amino acids and nucleosides) and Dialyzed Fetal Bovine Serum (Catalog No. 12117C).

### Formulation

Component (all components measured in mg/L)	
<b>AMINO ACIDS</b>	
L-alanine	450.000
L-asparagine monohydrate	4261.000
L-aspartic acid	650.000
L-glutamic acid	3750.000
L-proline	575.000
L-serine	500.000
<b>OTHER</b>	
Adenosine free base	350.000
Cytidine	350.000
Guanosine	350.000
Thymidine	12.000
Uridine	350.000

### Precautions

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

### Storage

Store GS Supplement 50X protected from light at -10 to -40 C.

### Indications of Deterioration

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

### Preparation Instructions

1. Remove product from the freezer and allow it to sit at room temperature for 30 minutes.
2. Thaw the product completely in a 37 C water bath. Agitate every 15 - 20 minutes to avoid gradients from forming. Remove GS Supplement 50X from water bath as soon as it is completely thawed.
3. To use GS Supplement 50X at a 1X concentration, aseptically add 2.0 mL of GS Supplement 50X for every 98.0 mL of media.

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## Characteristics

### Appearance

Clear colorless solution

### Endotoxin (LAL)

≤ 1.0 EU/mL

### Osmolality (as supplied)

90 - 130 mOsm/kg H<sub>2</sub>O

### Sterility

No microbial growth detected

## References

1. Cockett, M. I., Bebbington, C. R., and Yarranton, G. T., *Bio/Technology* (1990) 8:662.
2. Brown, M. E., Renner, G., et al. *Cytotechnology* (1992) 9:231.
3. Bebbington, C. R., Renner, G., et al., *Bio/Technology* (1992) 10:169.

#### Warranty, Limitation of Remedies

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