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TECHNICAL INFORMATION

Catalog Number: 1233749, 1233754

High GEM (Growth Enhancement Medium) (1X Solution) without L-glutamine

Description: Recommended for the growth of cells on microcarriers. This medium is a modification of DMEM in which 3.6 g/liter fructose is substituted for glucose, resulting in better pH control and higher cell yields. Fructose is metabolized slower than glucose, resulting in slower acid buildup.

Formulation:

<i>Component</i>		<i>Mol. Wt.</i>	<i>Mol. (mM)</i>
Amino Acids	<i>mg/lt</i>		
L-Arginine HCl		174.2	0.48
L-Cystine	84.00000	240.3	0.20
Glycine	48.00000	75.07	0.40
L-Histidine HCl H ₂ O	30.00000	209.6	0.20
L-Isoleucine	42.00000	131.2	0.80
L-Leucine	104.80000	131.2	0.80
L-Lysine HCl	104.80000	182.6	0.80
L-Methionine	145.20000	149.2	0.20
L-Phenylalanine	30.00000	165.2	0.40
L-Serine	66.00000	105.1	0.40
L-Threonine	42.00000	119.1	0.80
L-Tryptophan	95.20000	204.2	0.08
	16.00000		

L-Tyrosine		181.2	0.40
L-Valine	72.00000	117.1	0.80
Vitamins	93.60000		
Choline Chloride		139.6	0.03
D-Calcium Pantothenate	4.00000	238.3	0.02
Folic Acid	4.00000	441.4	0.01
myo-Inositol	4.00000	180.2	0.04
Nicotinamide	7.00000	122.13	0.03
Pyridoxal HCl	4.00000	203.6	0.02
Riboflavin	4.00000	376.4	0.0011
Thiamine HCl	0.40000	337.3	0.01
Inorganic Salts	4.00000		
Calcium Chloride [CaCl ₂ 2H ₂ O] Dihydrate		147	1.80
Ferric Nitrate [Fe(NO ₃) ₃ 9H ₂ O] Nonahydrate	264.90000	404	0.0002
Magnesium Sulfate [MgSO ₄]	0.10000	120.4	0.81
Potassium Chloride [KCl]	97.70000	74.55	5.37
Sodium Bicarbonate [NaHCO ₃]	400.00000	84.01	44.04
Sodium Chloride [NaCl]	3700.00000	58.44	109.51
Sodium Phosphate Monobasic [NaH ₂ PO ₄ H ₂ O] Monohydrate	6400.00000	159.96	0.78
Other	125.00000		
D-Fructose		180.2	19.98
Phenol Red Sodium Salt	3600.00000	376.4	0.04
Sodium Pyruvate	15.00000	110	1.00
Add	110.00000		
L-glutamine Powder (mg/L)		584.00	

L-glutamine 200 mM Solution	20.00
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Availability:

1X Liquid:

Catalog Number	Description	Size
1233754	1X High GEM without L-glutamine	500 ml

Powder:

Catalog Number	Description	Size
1033822	High GEM with L-glutamine without sodium bicarbonate	1 x 10 liter

Reference:

– *Methods in Enzymology, volume LVIII: Cell Culture*, Ed. William B. Jakoby and Ira H. Pastan, Academic Press; New, York (1979).