
	Document ID:	TDS-MCL-076-500ML	Version:	001
	Date of Issue:	10-JAN-2023	Approved by:	Dr. Iman Kamranfar
	Review Date:	10-JAN-2025	Signature:	
	Title:	TECHNICAL DATASHEET		

Glasgow's Minimum Essential Medium (GMEM)



Filtration/ Treatment	With L-Glutamine and High Glucose, without Tryptose Phosphate Broth
Product Code	MCL-076-500ML
Shelf Life	12 months from DOM
Storage Temperature	+2 to +8°C
Shipping Temperature	ambient

QC Specifications

Physical and Chemical Analysis	Method	Specifications	Units
Appearance	Visual	Clear, red solution	n/a
pH at RT	Electronic pH Meter	6.9 - 7.5	n/a
Osmolality	Osmometer	260 - 340	mOsm/kg
Endotoxin	LAL Kinetic	≤ 1.0	EU/ml
Sterility			
Aerobic Bacteria	Internally Validated	Not detected	n/a
Anaerobic Bacteria	Internally Validated	Not detected	n/a
Fungi (Yeast & Mold)	Internally Validated	Not detected	n/a
Mycoplasma	qPCR	Not detected	n/a
Cell culture			
Cell growth promotion	Passage test	3 passages	n/a
Viability	Trypan Blue Exclusion	≥75%	n/a

Formulation

Amino Acids	CAS number	Concentration (mg/L)
L-Arginine, Hydrochloride	1119-34-2	42.00
L-Cystine, Dihydrochloride	30925-07-6	31.20
L-Histidine, Hydrochloride, Monohydrate	5934-29-2	21.00
L-Glutamine	56-85-9	292.00
L-Isoleucine	73-32-5	52.50
L-Leucine	61-90-5	52.50
L-Lysine, Hydrochloride	657-27-2	73.00
L-Methionine	63-68-3	15.00
L-Phenylalanine	63-91-2	32.50
L-Threonine	72-19-5	47.60
L-Tryptophan	73-22-3	8.00
L-Tyrosine, Disodium, Dihydrate	122666-87-9	51.90
L-Valine	72-18-4	46.80
Vitamins		
Choline Chloride	67-48-1	2.00
D-Calcium Pantothenate	137-08-6	2.00
Folic Acid	59-30-3	2.00
Myo-Inositol	87-89-8	3.60
Niacinamide	98-92-0	2.00
Pyridoxal, Hydrochloride	65-22-5	2.00
Riboflavin	83-88-5	0.20
Thiamine, Hydrochloride	67-03-8	2.00
Other Components		
D-Glucose, Anhydrous	50-99-7	4500.00
Phenol Red, Sodium Salt	34487-61-1	15.00
Inorganic Salts		
Calcium Chloride, Anhydrous	10043-52-4	200.00

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Magnesium Sulfate, Anhydrous	7487-88-9	97.70
Ferric Nitrate Nonahydrate	7782-61-8	0.10
Potassium Chloride	7447-40-7	400.00
Sodium Bicarbonate	144-55-8	2750.00
Sodium Chloride	7647-14-5	6400.00
Sodium Phosphate, Monobasic, Monohydrate	10049-21-5	124.00

Application

Glasgow Minimum Essential Medium was originally developed as a modification of Eagle's medium (BME). The original GMEM includes 10% tryptose phosphate and twice the normal concentration of amino acids and vitamins compared to the BME. This medium was used to study the genetic factors affecting cell competence. GMEM uses a sodium bicarbonate buffer system (2.75 g/L), and therefore requires a 5–10% CO₂ environment to maintain physiological pH. This medium is intended for use with adherent kidney cell lines such as baby hamster kidney cells (BHK).

References

1. House, W., (1964) *Medical Research Council, Institute of Virology, University of Glasgow, Scotland, (November)*.
2. MacPherson, I. and Stoker, M., (1962) *Virology 16:147*.

Product Use: This product is intended for laboratory use only.