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Technical Datasheet

Swim's S-77 Medium

With L-Glutamine
Without Streptomycin sulphate, Phenol red and Sodium bicarbonate

Product Code: AT124

Product Description :

Swim's S-77 Medium was originally formulated for culturing suspension cells derived for Novikoff hepatoma. The medium is a modification of MEM Eagle's medium and does not contain biotin. It contains cystine, glutamine and calcium chloride. When properly supplemented, it supports growth of many cell lines derived from Novikoff hepatoma.

AT124 is Swim's S-77 Medium with L-glutamine. It does not contain streptomycin sulphate and phenol red. Users are advised to review the literature for recommendations regarding medium supplementation and physiological growth requirements specific for different cell lines.

Composition :

Ingredients	mg/L
INORGANIC SALTS	
Calcium chloride dihydrate	265.000
Magnesium sulphate anhydrous	96.300
Potassium chloride	400.000
Sodium chloride	6800.000
Sodium dihydrogen phosphate anhydrous	122.000
AMINO ACIDS	
DL-Valine	46.750
Glycine	11.250
L-Alanine	26.750
L-Arginine hydrochloride	167.500
L-Aspartic acid	20.000
L-Cystine dihydrochloride	12.000
L-Glutamine	292.000
L-Histidine hydrochloride monohydrate	10.500
L-Isoleucine	26.000
L-Leucine	26.000
L-Lysine hydrochloride	37.000
L-Methionine	15.000
L-Phenylalanine	16.500
L-Proline	17.250
L-Serine	21.000
L-Threonine	48.000
L-Tryptophan	10.000
L-Tyrosine disodium salt dihydrate	26.120
VITAMINS	
Choline bitartarate	2.535
D-Pantothenic acid (hemicalcium)	1.200
Folic acid	2.200
Niacinamide	0.600
Pyridoxal hydrochloride	1.000
Riboflavin	0.375
Thiamine hydrochloride	1.700
myo-Inositol	2.150
OTHERS	
Glucose	1000.000

Directions :

1. Suspend 9.5gms in 900ml tissue culture grade water with constant, gentle stirring until the powder is completely dissolved. Do not heat the water.
2. Add 2.2gms of sodium bicarbonate powder (TC230) or 29.3ml of 7.5% sodium bicarbonate solution (TCL013) for 1 litre of medium and stir until dissolved.
3. Adjust the pH to 0.2-0.3 pH units below the desired pH using 1N HCl or 1N NaOH since the pH tends to rise during filtration.
4. Make up the final volume to 1000ml with tissue culture grade water.
5. Sterilize the medium immediately by filtering through a sterile membrane filter with a porosity of 0.22 micron or less, using positive pressure rather than vacuum to minimize the loss of carbon dioxide.
6. Aseptically add sterile supplements as required and dispense the desired amount of sterile medium into sterile containers.
7. Store liquid medium at 2-8°C and in dark till use.

Material required but not provided :

Tissue culture grade water (TCL010)
Sodium bicarbonate (TC230)
Sodium bicarbonate solution, 7.5% (TCL013)
1N Hydrochloric acid (TCL003)

1N Sodium hydroxide (TCL002)
Foetal bovine serum (RM1112/RM10432)

Quality Control:

Appearance
Off-white to Creamish white, homogenous powder.

Solubility
Clear solution at 9.5 gms/L.

pH without Sodium Bicarbonate
4.50 - 5.10

pH with Sodium Bicarbonate
7.20 -7.80

Osmolality without Sodium Bicarbonate
240.00 -280.00

Osmolality with Sodium Bicarbonate
290.00 -330.00

Cultural Response
The growth promotion capacity of the medium is assessed qualitatively by analyzing the cells for the morphology and quantitatively by estimating the cell counts.

Endotoxin Content
NMT 1EU/ml

Storage and Shelf Life:

1. All the powdered media and prepared liquid culture media should be stored at 2-8°C. Use before the expiry date. Inspite of above recommended storage condition, certain powdered medium may show some signs of deterioration /degradation in certain instances. This can be indicated by change in colour, change in appearance and presence of particulate matter and haziness after dissolution.
2. Preparation of concentrated medium is not recommended since free base amino acids and salt complexes having low solubility may precipitate in concentrated medium.
3. pH and sodium bicarbonate concentration of the prepared medium are critical factors affecting cell growth. This is also influenced by amount of medium and volume of culture vessel used (surface to volume ratio). For example, in large bottles, such as Roux bottles pH tends to rise perceptibly as significant volume of carbon dioxide is released. Therefore, optimal conditions of pH, sodium bicarbonate concentration, surface to volume ratio must be determined for each cell type. We recommend stringent monitoring of pH. If needed, pH can be adjusted by using sterile 1N HCl or 1N NaOH or by bubbling in carbon dioxide.
4. If required, supplements can be added to the medium prior to or after filter sterilization observing sterility precautions. Shelf life of the medium will depend on the nature of supplement added to the medium.