BGjb Medium Fitton-Jackson Modification

With L-Glutamine
Without Sodium bicarbonate

Product Code: AT123

Product Description :

BGjb media were originally formulated for the growth of fetal rat long bones in a chemically defined media. The original formulation developed by Biggers, Gwatkin and Judah for embryonic bone was later modified by Sylvia Fitton Jackson and enriched with the addition of amino acids and vitamins. The buffering capacity of the medium was increased with the addition of phosphates. Fitton-Jackson Modification allows growth as well as calcification of cartilaginous embryonic bone.

AT123 is BGjb Medium Fitton-Jackson Modification with L-glutamine. 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	
Disodium hydrogen phosphate	112.000
Magnesium sulphate anhydrous	97.680
Potassium chloride	400.000
Sodium acetate	50.000
Sodium chloride	6800.000
Sodium dihydrogen phosphate	24.340
AMINO ACIDS	
DL-Valine	65.000
Glycine	800.000
L-Alanine	250.000
L-Arginine hydrochloride	211.060
L-Aspartic acid	150.000
L-Cysteine hydrochloride monohydrate	100.300
L-Glutamine	200.000
L-Histidine hydrochloride	185.750
L-Isoleucine	30.000
L-Leucine	50.000
L-Lysine hydrochloride	240.000
L-Methionine	50.000
L-Phenylalanine	50.000
L-Proline	400.000
L-Serine	200.000
L-Threonine	75.000
L-Tryptophan	40.000
L-Tyrosine disodium salt	49.710
VITAMINS	
Ascorbic acid	50.000
D-Biotin	0.200
D-Pantothenic acid (hemicalcium)	0.200
Folic acid	0.200
Nicotinic acid	20.000
Pyridoxal 5 phosphate	0.200
Riboflavin	0.200
Thiamine hydrochloride	4.000
Tocopherol phosphate disodium salt	1.000
Vitamin B12	0.040
myo-Inositol	0.200
p-Amino benzoic acid (PABA)	2.000
OTHERS	
Choline bitartarate	90.700
Glucose	10000.000
Lactic acid hemicalcium	555.000
Phenol red sodium salt	20.000

Directions :

1. Suspend 21.4gms in 900ml tissue culture grade water with constant, gentle stirring until the powder is completely dissolved. Do not heat the water.
2. Add 3.5gms of sodium bicarbonate powder (TC230) or 46.7ml 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.

Please refer disclaimer overleaf

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 21.4 gms/L.

pH without Sodium Bicarbonate
5.90 -6.50

pH with Sodium Bicarbonate
7.10 -7.70

Osmolality without Sodium Bicarbonate
300.00 -340.00

Osmolality with Sodium Bicarbonate
360.00 -400.00

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 and comparing it with a control medium through minimum three subcultures.

Endotoxin content
NMT 5EU/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.

Revision : 1 / 2011

CE