

### Technical Information

#### Iscove's Modified Dulbecco's Medium (IMDM) Without L-Glutamine, HEPES, Sodium bicarbonate and Phenol red

#### Product Code: AT1261A

**Application:** Iscove's Modified Dulbecco's Medium is an enriched modification of Dulbecco's Modified Eagle's Medium wherein serum can be partially or totally replaced by chemically defined substances. The medium contains additional amino acids, sodium selenite, sodium pyruvate, vitamins and inorganic salts. Potassium nitrate is substituted by ferric nitrate. IMDM was the first medium utilizing HEPES buffer. The medium when appropriately supplemented supports good growth of precursor cells of erythrocytes and macrophages. The medium also supports good growth of T and B lymphocytes and a variety of hybrid cells under serum free or reduced serum conditions.

AT1261A is Iscove's Modified Dulbecco's Medium. It does not contain L-glutamine, HEPES buffer 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/Litre
<b>INORGANIC SALTS</b>	
Calcium chloride dihydrate	219.000
Magnesium sulphate anhydrous	97.730
Potassium chloride	330.000
Potassium nitrate	0.076
Sodium chloride	4505.000
Sodium dihydrogen phosphate anhydrous	109.000
Sodium selenite	0.0173
<b>AMINO ACIDS</b>	
Glycine	30.000
L-Alanine	25.000
L-Arginine hydrochloride	84.000
L-Asparagine monohydrate	25.000
L-Aspartic acid	30.000
L-Cystine dihydrochloride	91.240
L-Glutamic acid	75.000
L-Histidine hydrochloride monohydrate	42.000
L-Isoleucine	104.800
L-Leucine	104.800
L-Lysine hydrochloride	146.200
L-Methionine	30.000
L-Phenylalanine	66.000
L-Proline	40.000
L-Serin	42.000
L-Threonine	95.200
L-Tryptophan	16.000

L-Tyrosine disodium salt dihydrate	104.200
L-Valine	93.600
<b>VITAMINS</b>	
Choline chloride	4.000
D-Biotin	0.013
D-Ca-pantothenate	4.000
Folic acid	4.000
Nicotinamide	4.000
Pyridoxine hydrochloride	4.000
Riboflavin	0.400
Thiamine hydrochloride	4.000
Vitamin B12	0.013
i-Inositol	7.200
<b>OTHERS</b>	
D-Glucose	4500.000
Sodium pyruvate	110.000

### Methodology

1. Suspend 11.1gms in 900ml tissue culture grade water with constant, gentle stirring until the medium is completely dissolved. Do not heat the water.
2. Add 3.024gms of sodium bicarbonate powder (TC1230) or 40.32ml of 7.5% sodium bicarbonate solution (TCL0113) and 0.584gms of L-Glutamine powder (TC1243) or 20ml of 200mM L-Glutamine solution (TCL1012) for 1 litre of medium and stir until dissolved
3. Make up the final volume to 1000ml with tissue culture grade water.
4. 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.
5. Aseptically add sterile supplements as required and dispense the desired amount of sterile medium into sterile containers.
6. Store liquid medium at 2-8°C and in dark till use.

### Material required but not provided :

Tissue culture grade water (TCL1010)  
 Sodium bicarbonate (TC1230)  
 Sodium bicarbonate solution 7.5% (TCL1013)  
 L-Glutamine (TC243)  
 200mM L-Glutamine solution (TCL012)  
 1N Hydrochloric acid (TCL1003)  
 1N Sodium hydroxide (TCL1002)  
 Foetal bovine serum (BA3112/BA12432)

### Quality Control

#### Appearance

Off-white to Creamish white, homogenous powder

#### Solubility

Clear solution at 11.1 gms/L.

### pH without Sodium Bicarbonate

4.00 -4.60

### pH with Sodium Bicarbonate

7.50 -8.10

### Osmolality without Sodium Bicarbonate(mOsm/Kg H<sub>2</sub>O)

190.00 -230.00

### Osmolality with Sodium Bicarbonate(mOsm/Kg H<sub>2</sub>O)

260.00 -300.00

### 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. In spite 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.

## Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conforms solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate.
- **Central Drug House Pvt. Ltd.** reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.
- Do not use the products if it fails to meet specifications for identity and performance parameters.