Magnesium chloride, hexahydrate

Cell Culture Tested

Product Code: TC006

Product Description :

Molecular Weight: 203.30
Molecular Formula: $MgCl_2.6H_2O$
CAS No.: 7791-18-6
Synonym: Bischofite

Magnesium chloride hexahydrate is used as a source of magnesium ion in various biochemical and molecular biology experimental analysis. Magnesium acts as a cofactor for about 300 cellular enzymes that play important roles during muscle relaxation, improves immune function, nerve conduction, cell metabolism, and attenuates the intrinsic blood coagulation pathway by competing with Ca^{2+} ions. It regulates the movement of potassium in myocardial cells by blocking Ca^{2+} channels.

Magnesium ions also help in annealing of oligonucleotides to the template DNA as well as extension of primed sequences by DNA polymerase thereby forming stable DNA segments during polymerase chain reaction. During immunoaffinity chromatography, the chaotropic salts like magnesium chloride disrupt the hydrogen bonds in water thereby increasing the solubility of hydrophobic proteins during elution through an antibody-coupled inert solid phase.

Some balanced salt solutions containing magnesium salts are used to wash and re-suspend cells during cell dissociation process. These salt solutions are also used to transport cells as well as dilute them for cell counts. Magnesium helps in obtaining high density growth of *E.coli* in Super Optimal Broth in a shaker incubator, thereby yielding cells with higher transformation efficiency.

Directions :

Preparation instructions:
For cell culture applications, magnesium chloride hexahydrate can be prepared as per required concentrations in water.
Solutions can be sterilized by filtering through a sterile membrane filter with a porosity of 0.22 microns or less.

Quality Control:

Appearance
White crystalline powder.

Solubility
Clear colorless solution at 5gm in 100ml of water .

pH of 5% solution in water
5.00 - 7.50

Assay
NLT 99%

Cell Culture Test
Passes

Storage and Shelf Life:

Store powder at room temperature in air tight containers. Sterile solutions are stable and can be stored at room temperature.
Use before expiry date given on product label.

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