Adenosine 5’-monophosphate sodium salt

Cell Culture tested

Product Code: TC084

Product Description :

Molecular Weight: 347.22
Molecular Formula: $C_{10}H_{14}N_5O_7P.xNa^+.yH_2O$
CAS No.: 149022-20-8
Synonym: AMP sodium salt

Adenosine 5'-monophosphate (5'-AMP) is a nucleotide consisting of the nucleobase adenine, pentose sugar ribose and a phosphate group at the 5'-position. The level of phosphorylated adenosine nucleotides like AMP, ADP, and ATP indicates the energy state of living cells.

One of the key biological function of 5’-AMP is the activation of the enzyme 5' adenosine monophosphate-activated protein kinase (AMPK). Activated AMPK initiates the signaling cascades that regulate various cellular functions such as glucose and lipid metabolism, protein synthesis, gene expression and glucose transport. 5’-AMP is also used in the amplification of RNA.

5'-AMP is used as a constituent of cell culture media such as Minimum Essential Medium (Alpha modification). Adenosine is a factor responsible for human endothelial growth and angiogenesis. Incorporation of adenine and 5’-AMP in cell culture media leads to enhanced synthesis of DNA indicating increased cell proliferation. Also, the addition of 5’-AMP stimulates proliferation of quiescent cells. The levels of cyclic form of AMP in culture medium is directly correlated to the doubling time of the cells. The presence of serum in culture medium enhances the cell growth with a decrease in cyclic AMP level. It also inhibits malignant cell growth in an effective manner than normal cell growth.

Directions :

Preparation instructions:
For cell culture applications, Adenosine 5'-monophosphate sodium salt solution 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 to off-white powder.

Solubility
Clear to slightly hazy solution at 10gm in 100 ml of water.

Water (K.F.)
0.00 -20.00

Assay
NLT 99.00%

Cell Culture Test
Passes

Storage and Shelf Life:

Store powder at 2 - 8°C in air tight containers and away from bright light.
Use before expiry date given on product label.

Revision : 0 / 2015

HiMedia Laboratories Pvt. Ltd. A-516,Swastik Disha Business Park,Via Vadhani Ind. Est., LBS Marg, Mumbai-400086, India. Customer care No.: 022-6147 1919
Email: info@himedialabs.com Website: www.himedialabs.com