

Adenosine

Catalog No: tcsc2176



Available Sizes

Size: 1g

Size: 5g



Specifications

CAS No:

58-61-7

Formula:

$C_{10}H_{13}N_5O_4$

Pathway:

Cell Cycle/DNA Damage;Autophagy;Metabolic Enzyme/Protease

Target:

Nucleoside Antimetabolite/Analog;Autophagy;Endogenous Metabolite

Purity / Grade:

>98%

Solubility:

DMSO : 33.33 mg/mL (124.72 mM; Need ultrasonic); H₂O : ≥ 6.67 mg/mL (24.96 mM)

Alternative Names:

Adenine riboside;D-Adenosine

Observed Molecular Weight:

267.24

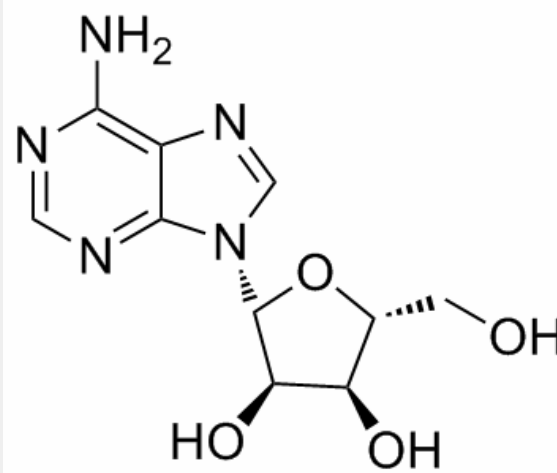
Product Description

Adenosine is a nucleoside composed of a molecule of adenine attached to a ribose sugar molecule (ribofuranose) moiety via a β-N9-glycosidic bond.

Target: Nucleoside antimetabolite/analog

Adenosine plays an important role in biochemical processes, such as energy transfer — as adenosine triphosphate (ATP) and adenosine diphosphate (ADP) — as well as in signal transduction as cyclic adenosine monophosphate, cAMP. It is also an inhibitory neurotransmitter, believed to play a role in promoting sleep and suppressing arousal. Adenosine also plays a role in regulation of blood flow to various organs through vasodilation.

Adenosine is an endogenous purine nucleoside that modulates many physiological processes. Cellular signaling by adenosine occurs through four known adenosine receptor subtypes. Extracellular adenosine concentrations from normal cells are approximately 300 nM; however, in response to cellular damage (e.g. in inflammatory or ischemic tissue), these concentrations are quickly elevated (600–1,200 nM). Thus, in regard to stress or injury, the function of adenosine is primarily that of cytoprotection preventing tissue damage during instances of hypoxia, ischemia, and seizure activity. Activation of A2A receptors produces a constellation of responses that in general can be classified as anti-inflammatory.



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