

Product Name: 5-Iodotubercidin

Catalog No.: 1745

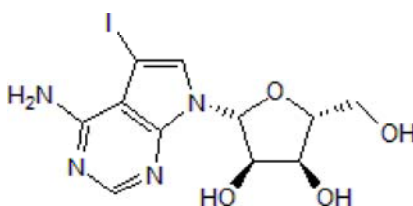
Batch No.: 2

CAS Number: 24386-93-4

IUPAC Name: 5-Iodo-7-β-D-ribofuranosyl-7*H*-pyrrolo[2,3-*d*]pyrimidin-4-amine

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₁H₁₃IN₄O₄
Batch Molecular Weight: 392.15
Physical Appearance: Off White solid
Solubility: DMSO to 50 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Potent adenosine kinase inhibitor (IC₅₀ = 26 nM). Also nucleoside transporter inhibitor (IC₅₀ values are < 25 nM, 7 μM and 15 μM for inhibition of [³H]adenosine, [³H]uridine and [³H]formycin B uptake respectively). Strongly stimulates glycogen synthesis in hepatocytes via activation of glycogen synthase. Also inhibits CK1, insulin receptor tyrosine kinase, phosphorylase kinase, PKA, CK2 and PKC (IC₅₀ values are 0.4, 3.5, 5-10, 5-10, 10.9 and 27.7 μM respectively). Decreases hippocampal DNA methylation through adenosine kinase inhibition in vivo.

Physical and Chemical Properties:

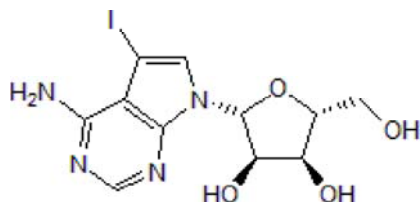
Batch Molecular Formula: C₁₁H₁₃I N₄O₄

Batch Molecular Weight: 392.15

Physical Appearance: Off White solid

Minimum Purity: >90%

Batch Molecular Structure:



References:

Williams-Karnesky et al (2013) Epigenetic changes induced by adenosine augmentation therapy prevent epileptogenesis. *J.Clin.Invest.* **123** 3552. PMID: 23863710.

Ugarkar et al (2000) Adenosine kinase inhibitors. 1. Synthesis, enzyme inhibition, and antiseizure activity of 5-iodotubercidin analogues. *J.Med.Chem.* **43** 2883. PMID: 10956196.

Parkinson and Geiger (1996) Effects of iodotubercidin on adenosine kinase activity and nucleoside transport in DDT₁ MF-2 smooth muscle cells. *J.Pharmacol.Exp.Ther.* **277** 1397. PMID: 8667202.

Massillon et al (1994) Identification of the glycosidic compound 5-iodotubercidin as a general protein kinase inhibitor. *Biochem.J.* **299** 123. PMID: 8166629.

Storage: Store at -20°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

DMSO to 50 mM

This product is supplied as a lyophilized solid and may be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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