5-Iodotubercidin
Item No. 10010375

CAS Registry No.: 24386-93-4
Formal Name: 5-iodo-7-β-D-ribofuranosyl-7H-pyrrolo[2,3-d]pyrimidin-4-amine
Synonyms: Itu, NSC 113939
MF: C_{11}H_{13}IN_{4}O_{4}
FW: 392.2
Purity: ≥95%
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol
UV/Vis: λ_{max}: 207,284 nm

Laboratory Procedures
For long term storage, we suggest that 5-iodotubercidin (Itu) be stored as supplied at -20°C. It should be stable for at least two years.

Itu is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Itu is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of Itu in these solvents is approximately 25 and 10 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of Itu is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers including 0.1 M hydrogen chloride (0.7 mg/ml) and 0.1 M sodium hydroxide (0.8 mg/ml). We do not recommend storing the aqueous solution for more than one day.

Itu is an adenosine derivative that initiates glycogen synthesis in hepatocytes by causing inactivation of phosphorylase α and activation of glycogen synthase α (maximal effects with ~20 µM Itu).\(^1\) Itu can inhibit a broad range of protein kinases (PKs) including PKA (IC_{50} = 5-10 µM), phosphorylase kinase (IC_{50} = 5-10 µM), casein kinase I (IC_{50} = 0.4 µM) and II (IC_{50} = 10.9 µM), and PKC (IC_{50} = 0.4 µM), which appears to account for its glycogenic action.\(^2\) Itu is also a highly potent inhibitor of ERK2 (K_{i} = 525 nM), a PK with important roles in cell proliferation.\(^3\) Mediated by the inhibition of acetyl-CoA carboxylase, Itu increases fatty acid oxidation activity of the liver at the expense of lipogenesis.\(^4\)

References

Related Products
For a list of related products please visit: www.caymanchem.com/catalog/10010375

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA
This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent to your institution.

WARRANTY AND LIMITATION OF REMEDY
Cayman Chemical Company makes no warranty or guarantee of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals heretofore. Cayman warrants only the material as supplied at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer’s exclusive remedy and Cayman’s sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman’s option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

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