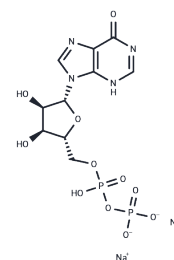


Inosine-5'-diphosphoric acid disodium salt

Chemical Properties

CAS No. : 54735-61-4
 Formula: C₁₀H₁₂N₄Na₂O₁₁P₂
 Molecular Weight: 472.15
 Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
 Actual storage temperature shall be subject to the COA.



Biological Description

Description	Inosine-5'-diphosphoric acid disodium salt, as a decoy substrate for NM23-H2, exhibits excellent binding ability at the GDP-binding site of NM23-H2 with a dissociation constant (KD) of 5.0 μM. It can inhibit c-MYC transcription by disrupting the interaction between NM23-H2-Pu27-GQ, thereby inducing apoptosis and G2/M cell cycle arrest without affecting the kinase activity mediated by NM23-H2. Inosine-5'-diphosphoric acid disodium salt also possesses anti-hypoxic, antihypertensive, and antiarrhythmic activities, protects organisms from γ-radiation damage, and can be used in research on cancers such as Burkitt lymphoma and cardiovascular diseases.
Targets(IC50)	Apoptosis,c-Myc
In vitro	Inosine-5'-diphosphoric acid disodium salt can serve as a decoy substrate for NM23-H2, binding to its GDP-binding site with a dissociation constant (Kd) of 5.0 μM. It can interfere with the interaction between NM23-H2 and the c-MYC G-quadruplex (Pu27-GQ), and enhance the inhibitory effect of Pu27-GQ ligands on c-MYC transcription, thereby inducing cell apoptosis and G2/M phase cycle arrest without affecting the intrinsic kinase activity of NM23-H2. Inosine-5'-diphosphate disodium also exhibits biological activities such as anti-hypoxia, anti-hyperthermia and anti-arrhythmia, can reduce the damage to the body caused by γ-rays, and has important application value in the related research of malignant tumors such as Burkitt's lymphoma and cardiovascular diseases [1][2][3].

Solubility Information

Solubility	H2O: 140 mg/mL (296.52 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.118 mL	10.5899 mL	21.1797 mL
5 mM	0.4236 mL	2.118 mL	4.2359 mL
10 mM	0.2118 mL	1.059 mL	2.118 mL
50 mM	0.0424 mL	0.2118 mL	0.4236 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Sengupta P, et al. Inosine 5'-diphosphate, a molecular decoy rescues Nucleoside diphosphate kinase from c-MYC G-Quadruplex unfolding. *Biochim Biophys Acta GenSubj.* 2020 Sep;1864(9):129649.

Sokolov I K, et al. Adaptogenic effect of riboxin[J]. *Pharmaceutical Chemistry Journal*, 1980, 14(1): 34-39.

Veveris M, et al. Experimental study of the antiarrhythmic effect of riboxin. *Farmakol. Neurotropnykh Sredstv* (1978), 119-24.

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