

Guanosine 5'-diphosphate sodium

Chemical Properties

CAS No. :	43139-22-6
Formula:	C10H12N5Na3O11P2
Molecular Weight:	509.146
Storage:	Keep away from direct sunlight Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>

Biological Description

Description	Guanosine 5'-diphosphate sodium is a nucleoside diphosphate involved in various intracellular signaling processes, particularly in G protein-coupled receptor signaling, where it regulates G protein activation through GDP/GTP exchange. It may also indirectly influence ion channel activity, such as ATP-sensitive potassium channels.
Targets(IC50)	Endogenous Metabolite,STAT,Potassium Channel
In vitro	Guanosine 5'-diphosphate sodium (100 µM-1 mM) sodium, 96% (HPLC) activates ATP-sensitive potassium channels in rabbit portal veins in the presence of Pinacidil [1]. Guanosine 5'-diphosphate sodium (10 µM, 24 hours) sodium, 96% (HPLC) inhibits ferritin-induced FPN internalization in the FPN-GFP cell line (HEK293T) and antagonizes ferritin to increase FPN-mediated cellular iron efflux in HepG2 and Caco-2 cells [2].
In vivo	Guanosine 5'-diphosphate sodium (30 mg/kg, intraperitoneal injection, single dose) sodium, 96% (HPLC), when used in combination with the iron supplement FeSO ₄ (2 mg/kg), increases iron absorption in normal BALB/c mice [2]. Guanosine 5'-diphosphate sodium (30 mg/kg, intraperitoneal injection, once every 24 hours for 2 weeks) sodium, 96% (HPLC), when used in combination with FeSO ₄ (2 mg/kg), improves iron malabsorption in turpentine-induced mice [2].

Solubility Information

Solubility	H2O: 80.00 mg/mL (157.13 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	1.9641 mL	9.8203 mL	19.6406 mL
5 mM	0.3928 mL	1.9641 mL	3.9281 mL
10 mM	0.1964 mL	0.982 mL	1.9641 mL
50 mM	0.0393 mL	0.1964 mL	0.3928 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

S Kajioka, et al. Guanosine diphosphate activates an adenosine 5'-triphosphate-sensitive K⁺ channel in the rabbit portal vein. *J Physiol.* 1991 Dec;444:397-418.

Angmo S, et al. Identification of Guanosine 5'-diphosphate as Potential Iron Mobilizer: Preventing the Heparin-Ferroportin Interaction and Modulating the Interleukin-6/Stat-3 Pathway. *Sci Rep.* 2017 Jan 5;7:40097.

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