

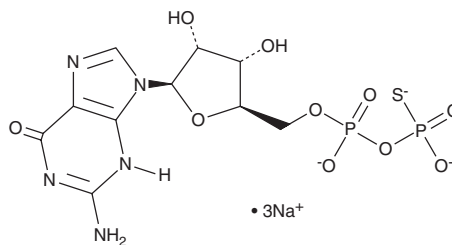
PRODUCT INFORMATION



Guanosine-5'-O-(2-thiodiphosphate) (sodium salt)

Item No. 38379

Formal Name: 5'-guanylic acid, monoanhydride with phosphorothioic acid, trisodium salt
Synonym: GDP-β-S
MF: C₁₀H₁₂N₅O₁₀P₂S • 3Na
FW: 525.2
Purity: ≥95%
Supplied as: A solution in water
Storage: -80°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Description

Guanosine-5'-O-(2-thiodiphosphate) is a non-hydrolyzable derivative of GDP (Item No. 31704) and an inhibitor of adenylyl cyclase (AC; K_i = 600 nM).¹ It is also a partial activator of AC when GTP is absent in rat cerebral cortex membranes (EC₅₀ = 400 nM).² Guanosine-5'-O-(2-thiodiphosphate) (1 μM) prevents norepinephrine-induced nitric oxide (NO) release in cardiac ventricular myocytes.³ It reduces female opossum urine-induced firing frequency of olfactory mitral/tufted neuronal cells in male opossums when administered at a concentration of 100 μM.⁴

References

1. Svoboda, M., Furnelle, J., Eckstein, F., *et al.* Guanosine 5'-O-(2-thiodiphosphate) as a competitive inhibitor of GTP in hormone or cholera toxin-stimulated pancreatic adenylate cyclase. *FEBS Lett.* **109(2)**, 275-279 (1980).
2. Rasenick, M.M., Hughes, J.M., and Wang, N. Guanosine-5'-O-thiodiphosphate functions as a partial agonist for the receptor-independent stimulation of neural adenylate cyclase. *Brain Res.* **488(1-2)**, 105-113 (1989).
3. Kanai, A.J., Mesaros, S., Finkel, M.S., *et al.* β-adrenergic regulation of constitutive nitric oxide synthase in cardiac myocytes. *Am. J. Physiol.* **273(4)**, C1371-C1377 (1997).
4. Zhang, J.-J., Huang, G.-Z., and Halpern, M. Firing properties of accessory olfactory bulb mitral/tufted cells in response to urine delivered to the vomeronasal organ of gray short-tailed opossums. *Chem. Senses* **32(4)**, 355-360 (2007).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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