

PRODUCT INFORMATION



Guanosine 5'-[γ-thio]triphosphate (sodium salt)

Item No. 38565

CAS Registry No.: 1486471-09-3

Formal Name: guanosine 5'-(trihydrogen diphosphate),
P'-anhydride with phosphorothioic acid,
tetrasodium salt

Synonyms: GTPγS, Guanosine 5'-O-(3-thio)
triphosphate, Guanosine 5'-trihydrogen
diphosphate monoanhydride
Phosphorothioic Acid

MF: $C_{10}H_{12}N_5O_{13}P_3S \cdot 4Na$

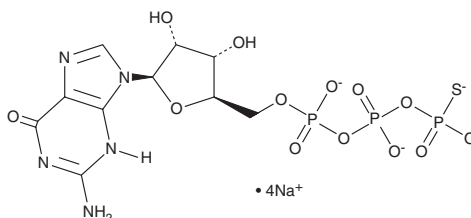
FW: 627.2

Purity: ≥95%

Supplied as: A 10 mM solution in water

Storage: -80°C

Stability: ≥4 years



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

Description

Guanosine 5'-[γ-thio]triphosphate (GTPγS) is a hydrolysis-resistant analog of GTP (Item No. 16060) that binds to and activates G proteins in the presence of magnesium.¹ GTPγS has been used to obtain crystal structures of GTPases in their active states, as well as measure the stability of GTPases in the presence of ligands.^{2,3} A radiolabeled form of GTPγS, [³⁵S]GTPγS, is commonly used in binding assays to determine agonism or antagonism at G protein-coupled receptors (GPCRs).^{1,4}

References

1. Harrison, C. and Traynor, J.R. The [³⁵S]GTPγS binding assay: Approaches and applications in pharmacology. *Life Sci.* **74**(4), 489-508 (2003).
2. Ihara, K., Muraguchi, S., Kato, M., *et al.* Crystal structure of human RhoA in a dominantly active form complexed with a GTP analogue. *J. Biol. Chem.* **273**(16), 9656-9666 (1998).
3. Lito, P., Solomon, M., Li, L.-S., *et al.* Allele-specific inhibitors inactivate mutant KRAS G12C by a trapping mechanism. *Science* **351**(6273), 604-608 (2016).
4. Strange, P.G. Use of the GTPγS ([³⁵S]GTPγS and Eu-GTPγS) binding assay for analysis of ligand potency and efficacy at G protein-coupled receptors. *Br. J. Pharmacol.* **161**(6), 1238-1249 (2010).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM