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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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PRODUCT INFORMATION



TNP-GTP (sodium salt)

Item No. 38570

Formal Name: 2',3'-O-(2,4,6-trinitro-2,4-cyclohexadien-1-ylidene)-guanosine 5'-(tetrahydrogen triphosphate), tetrasodium salt

Synonym: TNP-Guanosine 5'-triphosphate

MF: C₁₆H₁₃N₈O₂₀P₃ • 4Na

FW: 822.2

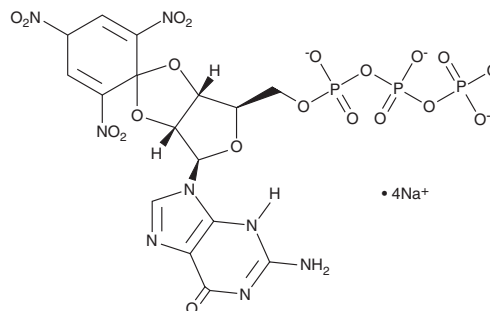
Purity: ≥95%

Ex./Em. Max: 470/552 nm

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

TNP-GTP is a fluorescent derivative of the energy substrate for protein synthesis and gluconeogenesis, guanosine 5'-triphosphate (GTP; Item No. 16060).¹ It is an antagonist of the purinergic P2X₂ and P2X_{2/3} receptors (IC₅₀s = 0.4 and 1.2 nM, respectively).² It also selectively inhibits rat soluble guanylyl cyclase (sGC; K_i = 11 nM) over bovine liver glutamate dehydrogenase (GDH; K_i = 2.7 μM) and the calmodulin-dependent *B. pertussis* adenylyl cyclase (AC) toxin (K_is = 20 and 320 μM in the presence of manganese or magnesium, respectively).^{1,3,4} It displays excitation/emission maxima of 470/552 nm, respectively.¹

References

1. Hiratsuka, T. A chromophoric and fluorescent analog of GTP, 2',3'-O-(2,4,6-trinitrocyclohexadienylidene)-GTP, as a spectroscopic probe for the GTP inhibitory site of liver glutamate dehydrogenase. *J. Biol. Chem.* **260**(8), 4784-4790 (1985).
2. Virginio, C., Robertson, G., Surprenant, A., et al. Trinitrophenyl-substituted nucleotides are potent antagonists selective for P2X₁, P2X₃, and heteromeric P2X_{2/3} receptors. *Mol. Pharmacol.* **53**(6), 969-973 (1998).
3. Dove, S., Danker, K.Y., Stasch, J.-P., et al. Structure/activity relationships of (M)ANT- and TNP-nucleotides for inhibition of rat soluble guanylyl cyclase α₁β₁. *Mol. Pharmacol.* **85**(4), 598-607 (2014).
4. Göttle, M., Dove, S., Steindel, P., et al. Molecular analysis of the interaction of *Bordetella pertussis* adenylyl cyclase with fluorescent nucleotides. *Mol. Pharmacol.* **72**(3), 526-535 (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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