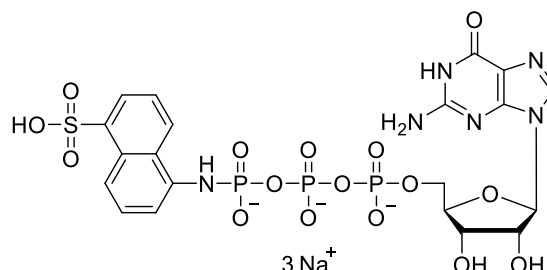


## Technical Information about GTP- $\gamma$ -AmNS

### Fluorescent Analogue of GTP

Update: April 11, 2019 HU



**Abbreviation:** **GTP- $\gamma$ -AmNS**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C <sub>20</sub> H <sub>23</sub> N <sub>6</sub> O <sub>16</sub> P <sub>3</sub> S (for free acid)	[76724-84-0]	728.4 (for free acid)	$\lambda_{\max}$ 246 nm / $\epsilon$ 31000 / pH 7	G 026

**Name:** Guanosine- 5'- O- triphosphoro-  $\gamma$ - 1- (5- sulfonic acid)naphthylamidate / syn.: Guanosine- 5'- triphosphate-  $\gamma$ - (5- sulfo- 1- naphthylamide)

**Description:** GTP- $\gamma$ -AmNS is an analogue of guanosine-5'-O-triphosphate (GTP) in which aminonaphthalene-5-sulfonic acid (AmNS) has been attached to the terminal phosphate via a phosphoramidate bond.

**Properties:** GTP- $\gamma$ -AmNS is a fluorescent analogue of GTP ( $\lambda_{\text{exc}}$  320 nm;  $\lambda_{\text{em}}$  460 nm). GTP- $\gamma$ -AmNS can be useful for assays of enzymes specialized to cleave  $\alpha$ - $\beta$ -phosphodiester bonds.

**Specification:** Aqueous solution of the sodium salt (10 mM). Other salt forms of GTP- $\gamma$ -AmNS are available upon request. Micromolar quantities are determined by UV at  $\lambda_{\text{max}}$ . When opening the tube please make sure that no liquid is lost within the cap. A short spin-down in a bench centrifuge is recommended before use.

**Purity:** Typical purity is better than 95% (HPLC / UV / 246 nm) at time of quality control and packing. However, actual purity depends on storage and transport conditions. The product is not sterile and has not been tested for endotoxins.

**Stability and Storage:** GTP- $\gamma$ -AmNS is most stable when stored as aqueous solution in the freezer (- 20° Celsius necessary, - 80° recommended), however, at ambient temperature the compound slowly starts to decompose. Thus, in order to maintain its original high quality it is recommended to allow thawing only before using the product. If you will not use up the vial with one application, please aliquot the contents of the vial in order to avoid repeated freeze/thaw cycles for the rest. When making such aliquots, be sure to operate quickly and to freeze the vial again as soon as possible. The compound should be protected from light.

**Toxicity and Safety:** Since triphosphates have multiple tasks in every organism, it is very likely that GTP analogues will interfere with many cell regulation processes *in vivo*. However, due to the rather small quantities to work with, no health hazards have been reported. Nevertheless please keep in mind, that the *in vivo* properties of this compound are not sufficiently characterized up to now. Avoid skin contact or ingestion and allow only trained personnel to handle the product.

Our products are designed, developed and sold for research purposes only! They are intended for *in vitro* and nonhuman *in vivo* laboratory applications. Any other use requires approval of health authorities.

**Not for drug, household or related uses!**

#### Selected References for GTP- $\gamma$ -AmNS:

Pollack, S.E.; Auld, D.S., *Anal. Biochem.*, **127**, 81 - 88 (1982): "Fluorescent Nucleotide Triphosphate Substrates for Snake Venom Phosphodiesterase"

Yarbrough, L.R.; Kirsch, M., *J. Biol. Chem.*, **256**, 112 - 117 (1981): "Binding of Fluorescent Analogs of GTP to the Exchangeable Nucleotide Binding Site of Tubulin"

Yarbrough, L.R.; Schlageck, J.G.; Baughman, M., *J. Biol. Chem.*, **254**, 12069 - 12073 (1979): "Synthesis and Properties of Fluorescent Nucleotide Substrates for DNA-dependent RNA Polymerases"