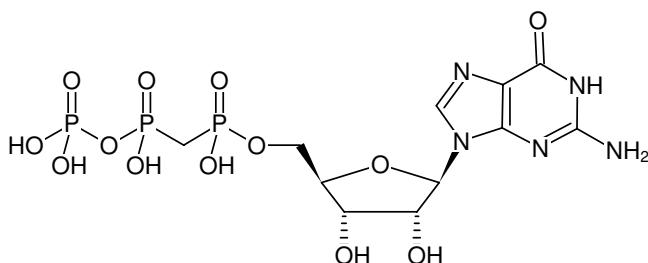


**GpCpp**

(GMPCPP)

Guanosine-5'-[(α,β)-methyleno]triphosphate, Sodium salt

Cat. No.	Amount
NU-405S	100 μ l (10 mM)
NU-405L	5 x 100 μ l (10 mM)



Structural formula of GpCpp

For research use only!**Shipping:** shipped on gel packs**Storage Conditions:** store at -20 °C

Short term exposure (up to 1 week cumulative) to ambient temperature possible.

Shelf Life: 12 months after date of delivery**Molecular Formula:** C₁₁H₁₈N₅O₁₃P₃ (free acid)**Molecular Weight:** 521.21 g/mol (free acid)**Exact Mass:** 521.01 g/mol (free acid)**CAS#:** 14997-54-7**Purity:** ≥ 95 % (HPLC)**Form:** solution in water**Color:** colorless to slightly yellow**Concentration:** 10 mM - 11 mM**pH:** 7.5 ±0.5**Spectroscopic Properties:** λ_{max} 252 nm, ϵ 13.7 L mmol⁻¹ cm⁻¹ (Tris-HCl pH 7.5)**Applications:**Atomic force microscopy^[1]Cryomicroscopy^[2]Assembly of microtubule^[3]Dynamic of microtubule bundles^[4]**Specific Ligands:**Tubulin^[5]GTP cyclohydrolase^[6]**Selected References:**

[1] Thomson *et al.* (2003) Large fluctuations in the disassembly rate of microtubules revealed by atomic force microscopy. *Ultramicroscopy* **97**:239.

[2] Meurer-Grob *et al.* (2001) Microtubule structure at improved resolution. *Biochemistry-US* **40** (27):8000.

[3] Dixit *et al.* (2009) Microtubule plus-end tracking by CLIP-170 requires EB1. *PNAS USA* **106**:492.

[4] Laan *et al.* (2008) Force-generation and dynamic instability of microtubule bundles. *PNAS USA* **105**:8920.

[5] Shanker *et al.* (2007) Enhanced microtubule binding and tubulin assembly properties of conformationally constrained Paclitaxel derivatives. *Biochemistry* **46**:11514.

[6] Ren *et al.* (2005) GTP cyclohydrolase II structure and mechanism. *J. Biol. Chem.* **280**:36912.

Franck *et al.* (2010) Direct physical study of kinetochoore-microtubule interactions by reconstitution and interrogation with an optical force clamp. *Methods* **51** (2):242.

Nitsche *et al.* (2010) Studying kinesin motors by optical 3D-nanometry in gliding motility assays. *Methods Cell. Biol.* **95**:247.

Gell *et al.* (2010) Microtubule dynamics reconstituted in vitro and imaged by single-molecule fluorescence microscopy. *Methods Cell. Biol.* **95**:221.

Peters *et al.* (2010) Insight into the molecular mechanism of the multitasking kinesin-8 motor. *EMBO J.* **29** (20):3437.

Khrapunovich-Baine *et al.* (2009) Distinct Pose of Discodermolide in Taxol Binding Pocket Drives a Complementary Mode of Microtubule Stabilization. *Biochemistry* **48** (49):11677.

Nitsche, *et al.* (2009) Quantum-dot-assisted characterization of microtubule rotations during cargo transport. *Nature Nanotechnology* **3**:553.

Asbury *et al.* (2007) Tension applied through the Dam1 complex promotes

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microtubule elongation providing a direct mechanism for length control in mitosis. *Nature Cell Biology* **9**:832.

Cary et al. (2005) Tonic and acute nitric oxide signaling through soluble guanylate cyclase is mediated by nonheme nitric oxide, ATP, and GTP. *Nature Structural & Molecular Biology* **102** (37):13064.

Klaholz et al. (2005) Conformational transition of initiation factor 2 from the GTP- to GDP- bound state visualized on the ribosome. *Nature Structural & Molecular Biology* **11**:1145.

Li et al. (2000) Equilibrium studies of a fluorescent paclitaxel derivative binding to microtubules. *Biochemistry-US* **39** (3):616.

Lowe et al. (2000) Helical tubes of ftsz from Methanococcus jannaschii. *Biol. Chem.* **381** (9-10):993.

Muller-Reichert et al. (1998) Structural changes at microtubule ends accompanying GTP hydrolysis: information from a slowly hydrolyzable analogue of GTP, guanylyl (α,β)methylene-diphosphonate. *Proc. Natl. Acad. Sci. USA* **95** (7):3661.

Tran et al. (1997) A metastable intermediate state of microtubule dynamic instability that differs significantly between plus and minus ends. *J. Cell Biol.* **138** (1):105.

Tran et al. (1997) How tubulin subunits are lost from the shortening ends of microtubules. *J. Struct. Biol.* **118** (2):107.

Vulevic et al. (1997) Role of guanine nucleotides in the vinblastine-induced self-association of tubulin: effects of guanosine α,β -methylene-triphosphate and guanosine α,β -methylene-diphosphate. *Biochemistry-US* **36** (42):12828.

Caplow et al. (1996) Evidence that a single monolayer tubulin-GTP cap is both necessary and sufficient to stabilize microtubules. *Mol. Biol. Cell* **7** (4):663.

Hyman et al. (1995) Structural-changes accompanying GTP hydrolysis in microtubules - information from a slowly hydrolyzable analog guanylyl- (α,β)-methylene-diphosphonate. *J. Cell Biol.* **128** (1-2):117.