DATA SHEET

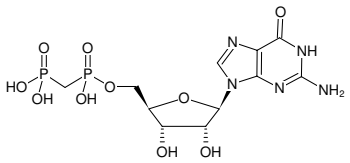
Jena Bioscience

GpCp

(GMPCP)

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

Cat. No.	Amount
NU-414-5	5 mg
NU-414-25	25 mg



Structural formula of GpCp

For general laboratory use.

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: $C_{11}H_{17}N_5O_{10}P_2$ (free acid)

Molecular Weight: 441.23 g/mol (free acid)

Exact Mass: 441.05 g/mol (free acid)

CAS#: 32381-15-0

Purity: ≥ 95 % (HPLC)

Form: solid

Color: white to off-white

Spectroscopic Properties: λ_{max} 252 nm, ε 13.7 L $mmol^{-1}$ cm^{-1} (Tris-HCl pH 7.5)

Applications:

Hydrolysis by tubulin[1]

Influence on Z-DNA conformation[2]

1H-NMR-spectra[3]

Selected References:

[1] Caplow *et al.* (1994) The free energy of hydrolysis of a microtubule-bound nucleotide triphosphate is near zero: All of free energy for hydrolysis is stored in microtubule lattice. *J. Cell Biology* **127**:779.

[2] Ban *et al.* (1996) Crystal structure of the self-complementary 5'-purine start decamer d (GCGCGCGCGC) in the Z-DNA conformation. *Biophysical J.* **71**:1215.

[3] Inoue *et al.* (1969) Low-field proton magnetic resonance spectra for seven dinucleotides ApCp, ApGp, ApUp, CpGp, GpCp, GpUp, and UpGp. *Physiological Chemistry and Physics* **1**:77.

Martin-Galiano *et al.* (2011) Bacterial tubulin distinct loop sequences and primitive assembly properties support its origin from a eukaryotic tubulin ancestor.*J. Biol. Chem.* **286 (22)**:19789.

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

Vulevic *et al.* (1997) Role of guanine nucleotides in the vinblastine-induced self-association of tubulin: effects of guanosine alpha,betamethylenetriphosphate and guanosine alpha,beta-methylenediphosphate. *Biochemistry-US* **36 (42)**:12828.

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

Hyman *et al.* (1992) Role of GTP hydrolysis in microtubule dynamics - information from a slowly hydrolyzable analog, GMPCPP. *Mol. Biol. Cell* **3 (10)**:1155.