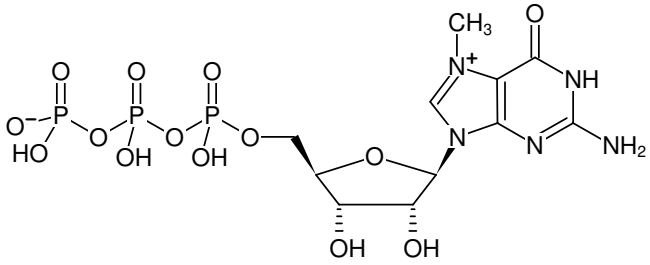
DATA SHEET

Jena Bioscience

m^{7}GTP - Solution

7-Methyl-guanosine-5'-triphosphate, Sodium salt

Cat. No.	Amount
NU-1122S	100 µl (10 mM)
NU-1122L	5 x 100 µl (10 mM)



Structural formula of m^{7}GTP - Solution

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: $C_{11}H_{18}N_5O_{14}P_3$ (free acid)

Molecular Weight: 537.21 g/mol (free acid)

Exact Mass: 537.01 g/mol (free acid)

CAS#: 26554-26-7 (free acid), 104809-18-9 (sodium salt)

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} 258/280 nm, ε 9.8/8.0 L mmol^{-1} cm^{-1} (Tris-HCl pH 7.5)

Applications:
X-ray of complex with eIF4ES[1, 2]

Thermodynamic binding analysis to eIF4E[3]

Affinity chromatogrphy withm7GTP-sepharose[4, 5]

Selected References:

[1] Ashby *et al.* (2011) Structure-based mutational analysis of eIF4E in relation to sbm1 resistance to Pea seed-borne mosaic virus in pea. *PLoS One* **6**:e15873.

[2] Brown *et al.* (2009) Crystallization of eIF4E complexed with eIF4GI peptide and glycerol reveals distinct structural differences around the cap-binding site. *Cell Cycle* **8**:1905.

[3] Guimaraes *et al.* (2009) Thermodynamic analysis of mRNA cap-binding by the human initiation factor eIF4E via free enrgy perturbations. *J. Amer. Chem. Soc.* **131**:18139.

[4] Yoffe *et al.* (2009) Evolutionary changes in the Leishmania eIF4F complex involve variations in the eIF4G interactions. *Nucleic Acid Research* **37**:3243.

[5] Szczepaniak *et al.* (2008) Bisphosphonate mRNA cap analog attached to sepharose for affinity chromatography of decapping enzymes. *Nucleic Acids Symposium Series* **52**:295.

Shen *et al.* (2001) Structural and thermodynamic behavior of eukaryotic initiation factor 4E in supramolecular formation with 4E-binding protein 1 and mRNA cap analogue, studied by spectroscopic methods. *Chem Pharm Bull* **49 (10)**:1299.

Carberry *et al.* (1989) A spectroscopic study of the binding of m7GTP and m7GpppG to human protein synthesis initiation factor 4E. *Biochemistry* **28 (20)**:8078.

Beemon *et al.* (1977) In vitro translation yields a possible Rous sarcoma virus src gene product. *Proc Natl Acad Sci U S A.* **74 (8)**:3302.