DATA SHEET

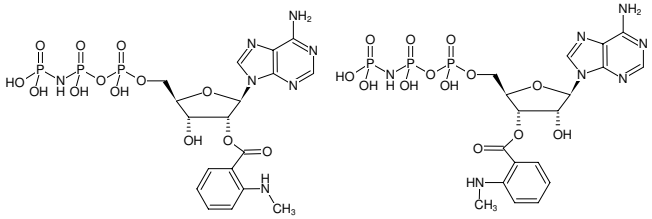
Jena Bioscience

Mant-AppNHp

(Mant-AMPPNP)

2'/3'-O-(N-Methyl-anthraniloyl)-adenosine-5'-[(β,γ)-imido] triphosphate,Triethylammonium salt

Cat. No.	Amount
NU-214S	10 µl (10 mM)
NU-214L	5 x 10 µl (10 mM)



Structural formula of Mant-AppNHp

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: 6 months after date of delivery

Molecular Formula: $C_{18}H_{24}N_7O_{13}P_3$ (free acid)

Molecular Weight: 639.35 g/mol (free acid)

Exact Mass: 639.06 g/mol (free acid)

CAS#: 85287-56-6

Purity: ≥ 90 % (HPLC)

Form: solution in water

Color: colorless to slightly yellow

Concentration: 10 mM - 11 mM

pH: 7.5 ±0.5

Spectroscopic Properties: λ_{max} 255/355 nm, ε 23.3/5.8 L mmol^{-1} cm^{-1} (Tris-HCl pH 7.5), λ_{exc} 355 nm, λ_{em} 448 nm

Applications:

Fluorescence stop-flow kinetics: helicase DnaB protein[1]

Displacement studies on TRP-MET-tyrosine kinase[2]

Nucleotide specific binding to membrane protein FeoB[3]

Inhibition of adenylyl cyclase[4]

X-ray studies of kinesin motors[5]

Agonistic ligand, mainly for nucleoside receptor A_1
Nucleosidephosphates stabilized against hydrolytic degradation can directly bind to nucleoside receptors.

Specific Ligands:

ATP-binding sites of serine protease[6]

(10S)-myosin[7]

Selected References:

[1] Bujalowski *et al.* (2000) Kinetic mechanism of nucleotide cofactor binding to Escherichia coli replicative helicase DnaB protein. Stopped-flow kinetic studies using fluorescent, ribose-, and base-modified nucleotide analogues. *Biochemistry* **39**:2106.

[2] Hays *et al.* (2003) Oligomerization-induced modulation of TRP-MET tyrosine kinase activity. *J. Biol. Chem.* **278**:27456.

[3] Marlovits *et al.* (2002) The membrane protein FeoB contains an intramolecular G protein essential for Fe (II) uptake in bacteria. *PNAS USA* **99**:16243.

[4] Wang *et al.* (2007) A conformational transition in the adenylyl cyclase catalytic site yields different binding modes for ribosyl-modified and unmodified nucleotide inhibitors. *Bioorg. Med. Chem.* **15**:2993.

[5] Bodey *et al.* (2009) 9-Angström structure of a microtubule-bound mitotic motor. *J. Mol. Biol.* **388 (2)**:218.

[6] Vineyard *et al.* (2006) 1. Transient kinetic experiments demonstrate the existence of a unique catalytic enzyme form in the peptide-stimulated ATPase mechanism of Escherichia coli Lon protease. *Biochemistry* **45**:11432.

[7] Rosenfeld *et al.* (1994) Structural and kinetic studies of the 10 S<==>6 S transition in smooth muscle myosin. *J. Biol. Chem.* **269**:30187.

Jezewska *et al.* (1996) Interactions of Escherichia coli primary replicative helicase DnaB protein with nucleotide cofactors. *Biophys. J.* **71**:2075.

Moore *et al.* (1994) Kinetic mechanism of adenine nucleotide binding to and hydrolysis by the Escherichia coli Rep monomer. 1. Use of fluorescent nucleotide analogues. *Biochemistry* **33**:14550.

Mant-AppNHp

(Mant-AMPPNP)

2'/3'-O-(N-Methyl-anthraniloyl)-adenosine-5'-[(β,γ)-imido] triphosphate,Triethylammonium salt

Williams *et al.* (1986) Effects of purine nucleotides on the binding of [3H]cyclopentyladenosine to adenosine A1-receptors in rat brain membranes. *J. Neurochem.* **47 (1)**:88.