

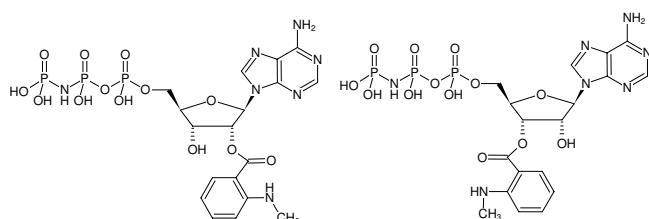


## Mant-AppNHp

(Mant-AMPPNP)

2'/3'-O-(N-Methyl-anthraniloyl)-adenosine-5'-[( $\beta,\gamma$ )-imido] triphosphate, Triethylammonium salt

Cat. No.	Amount
NU-214S	10 $\mu$ l (10 mM)
NU-214L	5 x 10 $\mu$ l (10 mM)



Structural formula of Mant-AppNHp

### 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:** 6 months after date of delivery

**Molecular Formula:** C<sub>18</sub>H<sub>24</sub>N<sub>7</sub>O<sub>13</sub>P<sub>3</sub> (free acid)

**Molecular Weight:** 639.35 g/mol (free acid)

**Exact Mass:** 639.06 g/mol (free acid)

**CAS#:** 85287-56-6

**Purity:**  $\geq$  90 % (HPLC)

**Form:** solution in water

**Color:** colorless to slightly yellow

**Concentration:** 10 mM - 11 mM

**pH:** 7.5  $\pm$  0.5

**Spectroscopic Properties:**  $\lambda_{max}$  255/355 nm,  $\epsilon$  23.3/5.8 L mmol<sup>-1</sup> cm<sup>-1</sup> (Tris-HCl pH 7.5),  $\lambda_{exc}$  355 nm,  $\lambda_{em}$  448 nm

### Applications:

Fluorescence stop-flow kinetics: helicase DnaB protein<sup>[1]</sup>

Displacement studies on TRP-MET-tyrosine kinase<sup>[2]</sup>

Nucleotide specific binding to membrane protein FeoB<sup>[3]</sup>

Inhibition of adenyl cyclase<sup>[4]</sup>

X-ray studies of kinesin motors<sup>[5]</sup>

Agonistic ligand, mainly for nucleoside receptor A<sub>1</sub>  
Nucleosidephosphates stabilized against hydrolytic degradation can directly bind to nucleoside receptors.

### Specific Ligands:

ATP-binding sites of serine protease<sup>[6]</sup>

(10S)-myosin<sup>[7]</sup>

### 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 adenyl 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  $S \rightleftharpoons 6 S$  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.



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Williams *et al.* (1986) Effects of purine nucleotides on the binding of [ $^3\text{H}$ ]cyclopentyladenosine to adenosine A<sub>1</sub>-receptors in rat brain membranes. *J. Neurochem.* **47** (1):88.