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Product Information

19511 Mant-ADP triethylammonium salt solution

Molecular Formula: $C_{18}H_{22}N_6O_{11}P_2$ (free acid) Molecular Weight: 560.35 g/mol (free acid) Form: clear aqueous solution

Concentration: 10 mM pH: 7.5 + / -0.5

 $\begin{array}{l} \lambda_{\text{max}} \ 255/355 \ \text{nm}; \ \lambda_{\text{exc}} \ 355 \ \text{nm}; \ \lambda_{\text{em}} \ 448 \ \text{nm}; \\ \epsilon \ 23.3/5.8 \ L \ \text{mmol}^{-1} \ \text{cm}^{-1} \ \text{(Tris-HCl pH 7.5)} \end{array}$ Spectroscopic Properties:

Package quantity: 150 Units

Unit Definition: 1 unit = 1 ul of a 10 mM solution

Structural formula of Mant-ADP

Applications:

MYOSIN-ATPase cycle[1] SecA cycle^[2] Dissociation kinetic proteinkinase A[3] FRET: kinesin[4], myosin^[5, 1] Conformational dynamic: DnaC-protein[6]

Specific Ligands:

Kinesin head domains[4] Myosin^[5]

Selected References:

[1] Robertson et al. (2005) Structural rearrangements in the active site of smooth muscle myosin. Biophysical J. **89**:1882.

[2] Fak et al. (2004) Nucleotide exchange from the high-affinity ATP-binding site in SecA is the rate-limiting step in the ATPase cycle of the soluble enzyme and occurs through a specialized conformational state. Biochemistry 43:7307.

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- [4] Hackney *et al.* (2009) Half-site inhibition of dimeric kinesin head domains by monomeric tail domains. *Biochemistry* **48**:3448.
- [5] Sun et al. (2006) Dynamics of the upper 50-kDa domain of myosin V examined with fluorescence resonance energy transfer. J. Biol. Chem. **281**:5711.
- [6] Galletto *et al.* (2005) The nucleotide-binding site of the *Escherichia coli* DnaC protein: Molecular topography of DnaC protein-nucleotide cofactor complex. *Cell Biochem. and Biophys.* **43**:331.

Pinto *et al.* (2011) Structure-activity relationships for the interactions of 2'- and 3'-(O)-(N-methyl)anthraniloyl-substituted purine and pyrimidine nucleotides with mammalian adenylyl cyclases. *Molecular Pharmacology* **82** (4):358.

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Cheng et al. (1998) Interaction of mant-adenosine nucleotides and magnesium with kinesin. Biochemistry 37:5288.

Bauer *et al.* (1997) X-ray crystal structure and solution fluorescence characterization of Mg-2'(3')-O-(N-methylanthraniloyl) nucleotides bound to the Dictyostelium discoideum myosin motor domain. *J. Mol.Biol.* **274**:394.

Bujalowski *et al.* (1994) Structural characteristics of the nucleotide-binding site of Escherichia coli primary replicative helicase DnaB protein. Studies with ribose and base-modified fluorescent nucleotide analogs. *Biochemistry* **33**:4682.

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.

Hiratsuka (1983) New ribose-modified fluorescent analogs of adenine and guanine nucleotides available as substrates for various enzymes. *Biochim. Biophys. Acta* **742**:496.

Storage Conditions: store at -20 °C, protect from light

Precautions and Disclaimer:

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