DATA SHEET

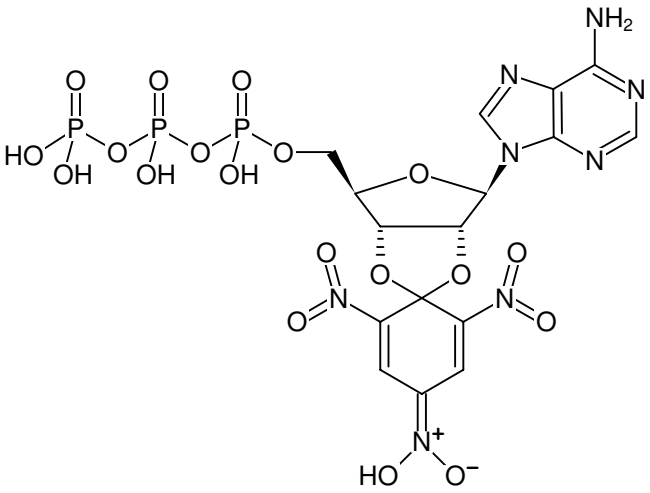
Jena Bioscience

TNP-ATP

2',3'-O-Trinitrophenyl-adenosine-5'-triphosphate, Triethylammonium salt

Cat. No.	Amount
NU-221S	200 µl (10 mM)
NU-221L	5 x 200 µl (10 mM)

λ_{em} 552 nm



Structural formula of TNP-ATP

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: $C_{16}H_{17}N_8O_{19}P_3$

Molecular Weight: 718.27 g/mol

Exact Mass: 717.98 g/mol

CAS#: 120360-48-7

Purity: ≥ 95 % (HPLC)

Form: solution in water

Color: orange

Concentration: 10 mM - 11 mM

pH: 7.5 ±0.5

Spectroscopic Properties: λ_{max} 259/408/470 nm, ε 25.0/26.4/18.5 L mmol^{-1} cm^{-1} (Tris-HCl pH 7.5), λ_{exc} 408/470 nm,

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Applications:
Agonistic ligand, mainly for nucleoside receptor A_1
Nucleoside-triphosphates can be converted by different membrane-bound phosphatases into nucleosides acting as nucleoside receptor ligands. The ester form is protected during uptake and transport and can be well-directed released through activation.

Specific Ligands:

Ligand for purinergic receptors:
$P2X_1$, $P2X_2$[1]

Antagonist for purinergic receptors:
$P2X_1$[2,3], $P2X_3$[3,6], $P2X_4$[4], P2X[5,7]

Selected References:

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[4] Manohar *et al.* (2012) ATP release and autocrine signaling Through P2X4 receptors regulate ?? T cell activation. *J. Leukoc. Biol.* **92 (4)**:787.

[5] Kamai *et al.* (2006) Involvement of ionotropic purinergic receptors in the histamine-induced enhancement of the cough reflex sensitivity in guinea pigs. *Eur. J. Pharmacol.* **547 (1-3)**:160.

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[7] Ruan *et al.* (2004) Identification of P2X receptors in cultured mouse and rat parasympathetic otic ganglion neurones including P2X knockout studies. *Neuropharmacology* **46**:1039.

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Hiratsuka *et al.* (1982) Biological activities and spectroscopic properties of chromophoric and fluorescent analogs of adenine nucleoside and nucleotides, 2',3'-O- (2,4,6-trinitrocyclohexadienylidene) adenosine derivatives. *Biochim Biophys Acta.* **719**:509.