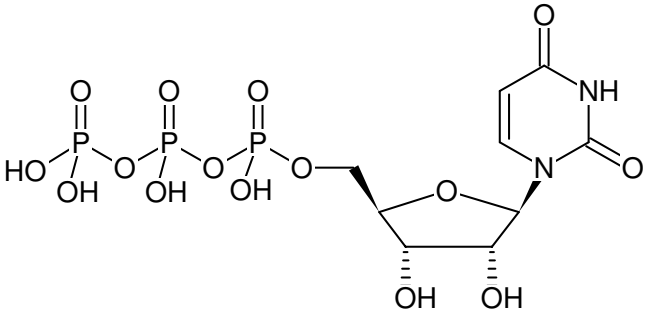
DATA SHEET

Jena Bioscience

UTP - Solution

100 mM Sodium salt solution
Uridine 5'-triphosphate, Sodium salt

Cat. No.	Amount
NU-1013	1 ml (100 mM)
NU-1013-100ML	100 ml (100 mM)



Structural formula of UTP - Solution

For general laboratory use.

Shipping: shipped on gel packs

Storage Conditions: store at -20 °C

Shelf Life: 12 months

Molecular Formula: $C_9H_{15}N_2O_{15}P_3$ (free acid)

Molecular Weight: 484.14 g/mol (free acid)

CAS#: 19817-92-6

Purity: ≥ 99 % (HPLC)

Form: clear aqueous solution

Concentration: 100 mM ±2 %

pH: 8.0 ±0.2 (22 °C)

Spectroscopic Properties: λ_{max} 262 nm, ε 9.8 L mmol^{-1} cm^{-1} (Tris-HCl pH 7.0)

Applications:
Activation of purinergic receptors[1,2,3,4]

Cardioprotection against hypoxic damage[2]

Enzyme kinetic parameters[5]

Phosphorylation of EGF-receptor vie purinergic receptors[3]

Stimulation of neurogenesis and dopaminergic neurons[6]

Description:
Ultrapure UTP supplied as clear aqueous solution.

Specific Ligands:

Enterovirus 71 3D RNA polymerase[7]

Ligand for purinergic receptors:
$P2X_1$[4]
$P2Y_2$[7,8,9,10]
$P2Y_4$[8,10,11]
$P2Y_6$[8]

Selected References:

[1] Raqeeb *et al.* (2011) Purinergic P2Y2 receptors mediate rapid Ca2+ mobilization, membrane hyperpolarization and nitric oxide production in human vascular endothelial cells. *Cell Calcium* **49**:240.

[2] Golan *et al.* (2011) Extracellular nucleotide derivatives protect cardiomyocytes against hypoxic stress. *Biochemical Pharmacology* **81**:1219.

[3] Boucher *et al.* (2011) Distinct activation of epidermal growth factor receptor by UTP contributes to epithelial cell wound repair. *American Journal Pathology* **178**:1092.

[4] Sugihara *et al.* (2011) Dual signaling pathway of arterial constriction by extracellular uridine-5-triphosphate in the rat. *J. Pharmacological Sciences (Japan)* **115**:293.

[5] Ma *et al.* (2011) Molecular cloning and analysis of the UDP-glucose pyrophosphorylase in Streptococcus equi subsp. Zooepidemicus. *Molecular Biology Reports* **38**:2751.

[6] Delic *et al.* (2011) Nucleotides affect neurogenesis and dopaminergic differentiation of mouse fetal midbrain-derived neural precursor cells. *Puronergic Signalling* **6**:417.

[7] Jiang *et al.* (2011) Biochemical characterization of enterovirus 71 3D RNA polymerase. *Biochim. Biophys. Acta, Gene Regulatory Mechanisms* **1809**:211.

[8] Pendergast *et al.* (2001) Synthesis and P2Y receptor activity of a series of uridine dinucleoside 5'-polyphosphates. *Bioorg. Med. Chem. Lett.* **11 (2)**:157.

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[9] Shaver *et al.* (1997) 4-substituted uridine 5'-triphosphates as agonists of the P2Y2 purinergic receptor. *Nucleosides and Nucleotides* **16 (7)**:1099.

[10] Kim *et al.* (2002) Methanocarba modification of uracil and adenine nucleotides: High potency of northern ring conformation at P2Y1, P2Y2, P2Y4 and P2Y11 but not P2Y6 receptors. *J. Med. Chem.* **45**:208.

[11] Nguyen *et al.* (1995) Cloning, expression, and chromosomal localization of human uridine nucleotide receptors. *J. Biol. Chem.* **270 (52)**:30845.