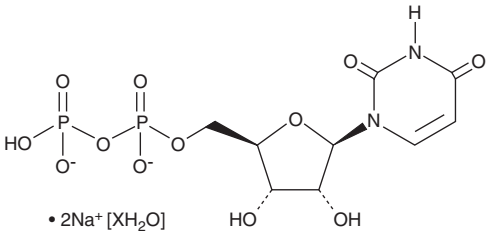
PRODUCT INFORMATION

UDP (sodium salt hydrate)

Item No. 18137

Formal Name:	uridine 5'-(trihydrogen diphosphate), disodium salt, hydrate
Synonym:	Uridine-5'-diphosphate
MF:	$C_9H_{12}N_2O_{12}P_2 \bullet 2Na \bullet XH_2O$
FW:	448.1
Purity:	≥95%
UV/Vis.:	λ_{max}: 260 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

UDP (sodium salt hydrate) is supplied as a crystalline solid. For biological experiments, we suggest that organic solvent-free aqueous solutions of UDP (sodium salt hydrate) be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of UDP (sodium salt hydrate) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

UDP is the diphosphate of the nucleoside uridine. It is a specific agonist of the P2Y purinoceptor $P2Y_6$ (EC_{50} = 13 nM for human $P2Y_6$), stimulating the production of inflammatory mediators, phagocytosis, and vasoconstriction.[1-6] UDP also acts as an antagonist of $P2Y_{14}$, whose agonists include UDP-glucose (Item No. 15602), UDP-galactose, and UDP-glucuronic acid.[1-2]

References

1. Jacobson, K.A., Ivanov, A.A., de Castro, S., *et al.* Development of selective agonists and antagonists of P2Y receptors. *Purinergic Signal.* **5(1)**, 75-89 (2009).
2. Abbracchio, M.P., Burnstock, G., Boeynaems, J.-M., *et al.* International Union of Pharmacology LVIII: Update on the P2Y G protein-coupled nucleotide receptors: From molecular mechanisms and pathophysiology to therapy. *Pharmacol. Rev.* **58(3)**, 281-341 (2006).
3. Garcia, R.A., Yan, M., Search, D., *et al.* $P2Y_6$ receptor potentiates pro-inflammatory responses in macrophages and exhibits differential roles in atherosclerotic lesion development. *PLoS One* **9(10)**, 1-13 (2014).
4. Inoue, K. UDP facilitates microglial phagocytosis through $P2Y_6$ receptors. *Cell Adhesion & Migration* **1(3)**, 131-132 (2007).
5. Besada, P., Shin, D.H., Costanzi, S., *et al.* Structure-activity relationships of uridine 5'-diphosphate analogues at the human $P2Y_6$ receptor. *J. Med. Chem.* **49(18)**, 5532-5543 (2006).
6. Mitchell, C., Syed, N., Tengah, A., *et al.* Identification of contractile $P2Y_1$, $P2Y_6$, and $P2Y_{12}$ receptors in rat intrapulmonary artery using selective ligands. *J. Pharmacol. Exp. Ther.* **343(3)**, 755-762 (2012).

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