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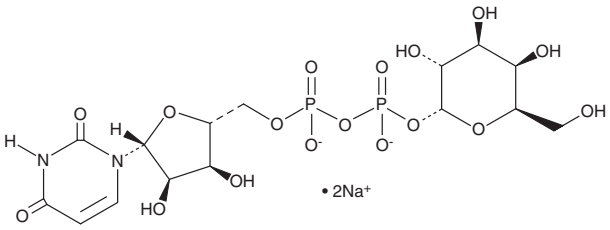
PRODUCT INFORMATION

UDP-α-D-Galactose (sodium salt)

Item No. 34664

CAS Registry No.: 137868-52-1
Formal Name: uridine 5′-(trihydrogen diphosphate), P′-α-D-galactopyranosyl ester, disodium salt,
Synonyms: UDP-Gal, UDP-α-D-Galactose, Uridine-5'-diphosphate-α-D-Galactose
MF: $C_{15}H_{22}N_2O_{17}P_2 \bullet 2Na$
FW: 610.3
Purity: ≥95%
UV/Vis.: λ_{max}: 263 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

UDP-α-D-Galactose (sodium salt) is supplied as a solid. Aqueous solutions of UDP-α-D-galactose (sodium salt) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of UDP-α-D-galactose (sodium salt) 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-α-D-galactose is an endogenous nucleotide sugar that is used by glycosyltransferases to transfer α-D-galactose residues to substrates.[1] It is an agonist of the purinergic $P2Y_{14}$ receptor (EC_{50} = 0.67 µM), an atypical P2Y receptor involved in the activation of dendritic and glial cells.[2] Levels of UDP-α-D-galactose in red blood cells are decreased in patients with phenylketonuria (PKU) and maple syrup urine disease, inborn errors of amino acid metabolism characterized by mutations in the gene encoding phenylalanine hydroxylase (PAH) and a deficiency in the branched-chain α-keto acid dehydrogenase enzyme complex, respectively.[3]

References

1. Hennet, T. The galactosyltransferase family. *Cell Mol. Life Sci.* **59(7)**, 1081-1095 (2002).
2. 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).
3. Gibson, J.B., Berry, G.T., Palmieri, M.J., *et al.* Sugar nucleotide concentrations in red blood cells of patients on protein- and lactose-limited diets: Effect of galactose supplementation. *Am. J. Clin. Nutr.* **63(5)**, 704-708 (1996).

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