

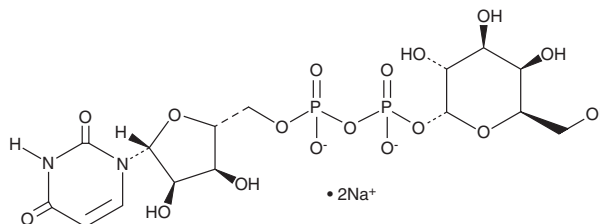
# PRODUCT INFORMATION



## UDP- $\alpha$ -D-Galactose (sodium salt)

Item No. 34664

**CAS Registry No.:** 137868-52-1  
**Formal Name:** uridine 5'-(trihydrogen diphosphate), P'- $\alpha$ -D-galactopyranosyl ester, disodium salt,  
**Synonyms:** UDP-Gal, UDP- $\alpha$ -D-Galactose, Uridine-5'-diphosphate- $\alpha$ -D-Galactose  
**MF:** C<sub>15</sub>H<sub>22</sub>N<sub>2</sub>O<sub>17</sub>P<sub>2</sub> • 2Na  
**FW:** 610.3  
**Purity:**  $\geq 95\%$   
**UV/Vis.:**  $\lambda_{\text{max}}$ : 263 nm  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:**  $\geq 4$  years



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

### Laboratory Procedures

UDP- $\alpha$ -D-Galactose (sodium salt) is supplied as a solid. Aqueous solutions of UDP- $\alpha$ -D-galactose (sodium salt) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of UDP- $\alpha$ -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- $\alpha$ -D-galactose is an endogenous nucleotide sugar that is used by glycosyltransferases to transfer  $\alpha$ -D-galactose residues to substrates.<sup>1</sup> It is an agonist of the purinergic P2Y<sub>14</sub> receptor (EC<sub>50</sub> = 0.67  $\mu$ M), an atypical P2Y receptor involved in the activation of dendritic and glial cells.<sup>2</sup> Levels of UDP- $\alpha$ -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  $\alpha$ -keto acid dehydrogenase enzyme complex, respectively.<sup>3</sup>

### 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).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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