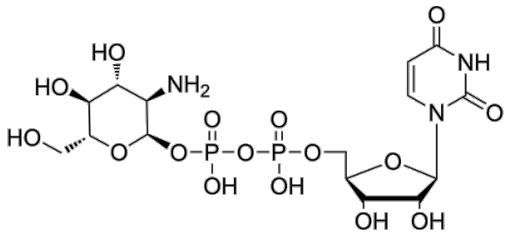
Product Data Sheet

Product Name: UDP-Glucosamine
Cat. No.: GC79584

Chemical Properties

Cas. No.	17479-04-8		
Formula	$C_{15}H_{25}N_3O_{16}P_2$	M.Wt	565.32
Solubility		Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			



Background

UDP-Glucosamine is a sugar nucleotide analog, glycosyl donor, and metabolite of D-galactosamine. UDP-Glucosamine provides Glucosamine for the synthesis of Dolichyl monophosphate glucosamine, inhibits the synthesis of Dolichyl monophosphate glucose, Dolichyl monophosphate mannose, and Dolichyl pyrophosphate (GlcNAc) 2, sequesters Dolichyl monophosphate, and acts as a glycosyl donor in chicken embryo and rat liver microsomal preparations. UDP-Glucosamine can be used in studies related to influenza virus infection [1].

In Vitro, UDP-Glucosamine (30 min) supports the synthesis of Dol-P-GlcN in rat liver microsomes,

and the addition of exogenous Dol-P increases its incorporation by more than 4-fold[1]. UDP-Glucosamine (10-200 μM) inhibits the synthesis of Dol-P-Glc, Dol-P-Man, and Dol-PP-(GlcNAc)2 in microsomes of primary chicken embryo cells, among which the synthesis of Dol-PP-(GlcNAc)2 is the most sensitive to it, and exogenous Dol-P reverses this inhibitory effect[1]. UDP-Glucosamine competes with UDP-Glucose for Dol-P-Glc synthesis in vitro; at a high UDP-GlcN:UDP-Glc concentration ratio, its maximum inhibition rate of this reaction reaches 73% in rat liver microsomes and 56% in microsomes of primary chick embryo cells[1].

References:

[1]. McDowell W, et al. UDP-glucosamine as a substrate for dolichyl monophosphate glucosamine synthesis. Biochem J. 1986;233(3):749-754.