

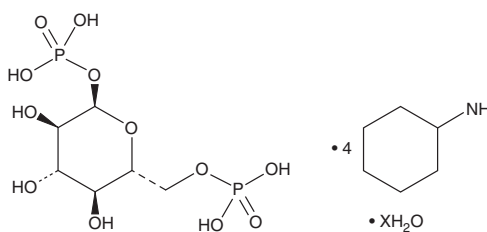
# PRODUCT INFORMATION



## $\alpha$ -D-Glucose-1,6-bisphosphate (cyclohexyl ammonium salt hydrate)

Item No. 16464

<b>Formal Name:</b>	$\alpha$ -D-glucopyranose, 1,6-bis(dihydrogen phosphate), cyclohexanamine (1:4), hydrate
<b>Synonyms:</b>	D-Glucose-1,6-diphosphate, Glc-1,6-P <sub>2</sub>
<b>MF:</b>	C <sub>6</sub> H <sub>14</sub> O <sub>12</sub> P <sub>2</sub> • 4C <sub>6</sub> H <sub>13</sub> N [XH <sub>2</sub> O]
<b>FW:</b>	736.8
<b>Purity:</b>	≥95%
<b>Supplied as:</b>	A solid
<b>Storage:</b>	-20°C
<b>Stability:</b>	≥4 years



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

### Laboratory Procedures

$\alpha$ -D-Glucose-1,6-bisphosphate (cyclohexyl ammonium salt hydrate) is supplied as a solid. Aqueous solutions of  $\alpha$ -D-glucose-1,6-bisphosphate (cyclohexyl ammonium salt hydrate) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of  $\alpha$ -D-glucose-1,6-bisphosphate (cyclohexyl ammonium 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

$\alpha$ -D-Glucose-1,6-bisphosphate is a bis-phosphorylated derivative of  $\alpha$ -D-glucose that has roles in carbohydrate metabolism.<sup>1</sup> It is the product of the reaction of glucose-1- or 6-phosphate with glucose-1,6-bisphosphate synthase (PGM2LI) in the conversion of 1,3-bisphosphoglycerate to 3-phosphoglycerate.<sup>2</sup> It is also a cofactor for the bacterial enzyme phosphopentomutase.<sup>3,4</sup>  $\alpha$ -D-Glucose-1,6-bisphosphate has been used in the study of carbohydrate metabolism.

### References

1. Beitner, R. Regulation of carbohydrate metabolism by glucose 1,6-bisphosphate in extrahepatic tissues; comparison with fructose 2,6-bisphosphate. *Int. J. Biochem.* **22(6)**, 553-557 (1990).
2. Maliekal, P., Sokolova, T., Vertommen, D., et al. Molecular identification of mammalian phosphopentomutase and glucose-1,6-bisphosphate synthase, two members of the  $\alpha$ -D-phosphohexomutase family. *J. Biol. Chem.* **282(44)**, 31844-31851 (2007).
3. Moustafa, H.M.A., Zaghloul, T.I., and Zhang, Y.-H.P. A simple assay for determining activities of phosphopentomutase from a hyperthermophilic bacterium *Thermotoga maritima*. *Anal. Biochem.* **501**, 75-81 (2016).
4. Panosian, T.D., Nannemann, D.P., Watkins, G.R., et al. *Bacillus cereus* phosphopentomutase is an alkaline phosphatase family member that exhibits an altered entry point into the catalytic cycle. *J. Biol. Chem.* **286(10)**, 8043-8054 (2011).

#### 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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/12/2022

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897  
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM