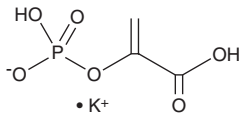
PRODUCT INFORMATION

Phosphoenolpyruvic Acid (potassium salt)

Item No. 19192

CAS Registry No.: 4265-07-0
Formal Name: 2-(phosphonooxy)-2-propenoic acid, monopotassium salt
Synonym: PEP-K
MF: $C_3H_4O_6P \bullet K$
FW: 206.1
Purity: ≥95%
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

Phosphoenolpyruvic acid (potassium salt) is supplied as a crystalline solid. Aqueous solutions of phosphoenolpyruvic acid (potassium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of phosphoenolpyruvic acid (potassium 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

Phosphoenolpyruvic acid plays a role in both glycolysis and gluconeogenesis. During glycolysis, it is formed by the action of enolase on 2-phosphoglycerate and is metabolized to pyruvate by pyruvate kinase.[1] One molecule of ATP is formed during its metabolism in this pathway. During gluconeogenesis, it is formed from phosphoenolpyruvate carboxykinase-catalyzed oxaloacetate decarboxylation and GTP hydrolysis.[1-3] In plants, it is metabolized to form aromatic amino acids and also serves as a substrate for phosphoenolpyruvate carboxylase-catalyzed carbon fixation.[4]

References

1. Muñoz, M.E. and Ponce, E. Pyruvate kinase: Current status of regulatory and functional properties. *Comp. Biochem. Physiol. B* **135(2)**, 197-218 (2003).
2. Matte, A., Tari, L.W., Goldie, H., *et al.* Structure and mechanism of phosphoenolpyruvate carboxykinase. *J. Biol. Chem.* **272(13)**, 8105-8108 (1997).
3. Hanson, R.W. and Garber, A.J. Phosphoenolpyruvate carboxykinase. I. Its role in gluconeogenesis. *Am. J. Clin. Nutr.* **25(10)**, 1010-1021 (1972).
4. Herrmann, K.M. The shikimate pathway: Early steps in the biosynthesis of aromatic compounds. *Plant Cell* **7(7)**, 907-919 (1995).

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