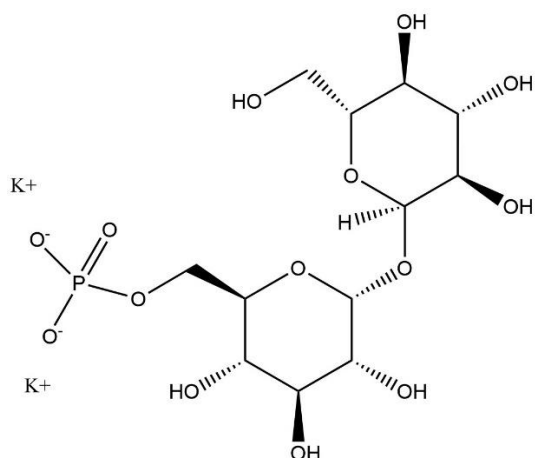


T8150
Trehalose-6-Phosphate


Synonym: T6P
 CAS No.: 136632-28-5
 Formula: C₁₂H₂₁O₁₄PK₂
 Molecular Weight: 498.56 g/mol

Properties:

Form: Solid
 Appearance: White to Off-White powder
 Application: Plant signaling molecule
 Solubility: Water
 Storage Temperature: -20°C
 Other Notes: Plant Tissue Culture Tested

Application Notes:

Trehalose-6-Phosphate (T6P) plays a key role in regulating carbohydrate metabolism (Schluepmann *et al.* 2003), stress tolerance (Iordachescu and Imai 2008; Jang *et al.* 2003), and flowering (Wahl *et al.* 2013) in plants.

T6P inhibits SnRK1 (Zhang *et al.* 2009), a protein kinase involved in switching off some biosynthesis and growth processes during energy deficit. These properties make T6P an key component for further research on growth and development of plants.

Please Note: While PhytoTech Labs Inc. tests each lot of this product with two or more plant cell/ tissue culture lines, it is the sole responsibility of the purchaser to determine the appropriateness of this product for the specific plants that are being cultured and applications that are being used.

References:

- Iordachescu M, and R Imai (2008) Trehalose Biosynthesis in Response to Abiotic Stresses. *Journal of Integrative Plant Biology* 50(10):1223–1229
- Jang I, Oh S, Seo J, Choi W, Song SI, Kim CH, Kim YS, Seo H, Choi YD, Nahm BH, and J Kim, Expression of a Bifunctional Fusion of the Escherichia coli Genes for Trehalose-6-Phosphate Synthase and Trehalose-6-Phosphate Phosphatase in Transgenic Rice Plants Increases Trehalose Accumulation and Abiotic Stress Tolerance without Stunting Growth. *Plant Physiology* 131(2):516–524,
- Schluepmann H, Pellny T, van Dijken A, Smeekens S, and M Paul (2003) Trehalose 6-phosphate is indispensable for carbohydrate utilization and growth in Arabidopsis thaliana. *PNAS*. 100(11):6849-54

PhytoTech Labs Inc.

14610 W 106th St. Lenexa, KS 66215
 Phone: 1-888-749-8682 or 1-913-341-5343
 phytotechlab.com

Wahl V, Ponnu J, Schlereth A, Arrivault S, Langenecker T, Franke A, Feil R, Lunn JE, Stitt M, and M Schmid (2013) Regulation of Flowering by Trehalose-6-Phosphate Signaling in *Arabidopsis thaliana*. *Science*. 339(6120):704-707.

Zhang Y, Primavesi LF, Jhurrea D, Andralojc PJ, Mitchell RA, Powers SJ, Schluempmann H, Delatte T, Wingler A, and MJ Paul. (2009) Inhibition of SNF1-related protein kinase1 activity and regulation of metabolic pathways by trehalose-6-phosphate. *Plant Physiol*. 149(4):1860-71