Human PTS / PTPS Protein (His Tag)

Catalog Number: **14332-H07E**

General Information

Gene Name Synonym:

PTPS; PTS

Protein Construction:

A DNA sequence encoding the mature form of human PTS (Q03393) (Met1-Glu145) was expressed with a polyhistide tag at the N-terminus.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 85 % as determined by SDS-PAGE

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: His

Molecular Mass:

The recombinant human PTS consists of 160 amino acids and predicts a molecular mass of 18.2 KDa. It migrates as an approximately 27 KDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, 40% Glycerol, pH, 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

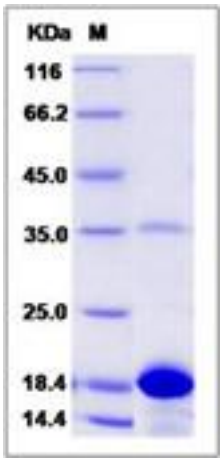
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

PTS(6-pyruvoyltetrahydropterin synthase) belongs to the PTPS family. It catalyzes the elimination of inorganic triphosphate from dihydroneopterin triphosphate, which is the second and irreversible step in the biosynthesis of tetrahydrobiopterin from GTP. Tetrahydrobiopterin, also known as BH(4), is an essential cofactor and regulator of various enzyme activities, including enzymes involved in serotonin biosynthesis and NO synthase activity. Mutations in this gene result in hyperphenylalaninemia. PTS is involved in the biosynthesis of tetrahydrobiopterin, an essential cofactor of aromatic amino acid hydroxylases. PTS also catalyzes the transformation of 7,8-dihydroneopterin triphosphate into 6-pyruvoyl tetrahydropterin. Defects in PTS are the cause of BH4-deficient hyperphenylalaninemia type A (HPABH4A), also called 6-pyruvoyl-tetrahydropterin synthase deficiency (PTS deficiency) or hyperphenylalaninemia tetrahydrobiopterin-deficient due to PTS deficiency. HPABH4A is an autosomal recessive disorder characterized by depletion of the neurotransmitters dopamine and serotonin, and clinically by severe neurological symptoms unresponsive to the classic phenylalanine-low diet.

References

1.Ashida A, *et al.* (1994) A missense mutation (A to G) of 6-pyruvoyltetrahydropterin synthase in tetrahydrobiopterin-deficient form of hyperphenylalaninemia. Genomics. 24:408-10. 2.Ashida A, *et al.* (1993) cDNA cloning, expression in Escherichia coli and purification of human 6-pyruvoyl-tetrahydropterin synthase. Biochem. Biophys Res Commun. 195:1386-93. 3.Thoeny B, *et al.* (1992) Human 6-pyruvoyltetrahydropterin synthase: cDNA cloning and heterologous expression of the recombinant enzyme. Biochem Biophys Res Commun. 189:1437-43.