Data Sheet (Cat.No.TMPY-03109)

TargetMol

PHYH Protein, Human, Recombinant

General Information

Synonyms:	PHYH1;RD;PAHX;LN1;phytanoyl-CoA 2-hydroxylase;LNAP1
Protein Construction:	A DNA sequence encoding the human PHYH (O14832) (Ser31-Leu338) was expressed, with a N-terminal Met. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	O14832
Molecular Weight:	35.6 kDa (predicted); 26-32 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 80 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM mops, 10% glycerol, 2 mM DDT, 1 mM EDTA, 0.2 mM PMSF, 0.2M NaCl, pH 7.2. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

PHYH belongs to the family of iron(II)-dependent oxygenases, which typically incorporate one atom of dioxygen into the substrate and one atom into the succinate carboxylate group. PHYH is expressed in liver, kidney, and T-cells, but not in spleen, brain, heart, lung and skeletal muscle. It converts phytanoyl-CoA to 2-hydroxyphytanoyl-CoA. Defects in PHYH can cause Refsum disease (RD). RD is an autosomal recessive disorder characterized

clinically by a tetrad of abnormalities: retinitis pigmentosa, peripheral neuropathy, cerebellar ataxia, and elevated protein levels in the cerebrospinal fluid (CSF). Patients exhibit accumulation of the branched-chain fatty acid, phytanic acid, in blood and tissues.

Reference

Mihalik SJ,et al.(1997) Identification of PAHX, a Refsum disease gene. Nat Genet. 17(2): 185-9.
McDonough MA,et al.(2005) Structure of human phytanoyl-CoA 2-hydroxylase identifies molecular mechanisms of Refsum disease. J Biol Chem. 280(49):41101-10.
Jansen GA,et al.(1998) Characterization of phytanoyl-Coenzyme A hydroxylase in human liver and activity measurements in patients with peroxisomal disorders. Clin Chim Acta. 271 (2):203-11.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481