Data Sheet (Cat.No.TMPY-04771)

TargetMol

CARKL Protein, Human, Recombinant (His & GST)

General Information

Synonyms:	SHK;CARKL;sedoheptulokinase
Protein Construction:	A DNA sequence encoding the human SHPK (NP_037408.2) (Ala2-Ser478) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q9UHJ6
Molecular Weight:	79.2 kDa (predicted); 65 kDa (reducing conditions)

QC Testing

Biological Activity:	Kinase activity untested
Purity:	> 80 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Supplied as sterile 20 mM Tris, 500 mM NaCl, 3 mM DTT, 10% glycerol, pH 7.4.

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 the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

CARKL, also known as SHPK, is a nonprotein kinase of glucose metabolism. CARKL has weak homology to several carbohydrate kinases, a class of proteins involved in the phosphorylation of sugars as they enter a cell, inhibiting return across the cell membrane. CARKL catalyzes an orphan reaction in the pentose phosphate pathway, refocusing cellular metabolism to a high-redox state upon physiological or artificial downregulation. CARKL-dependent metabolic reprogramming is required for proper M1- and M2-like macrophage polarization and uncover a rate-limiting requirement for appropriate glucose flux in macrophage polarization.

Reference

Haschemi A. et al., 2012, Cell Metab. 15 (6): 813-26.
Udeshi ND. et al., 2012, Mol Cell Proteomics. 11 (5): 148-59.
Wamelink MM. et al., 2008, Hum Mutat. 29 (4): 532-6.

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