Data Sheet (Cat.No.TMPY-04401)

TargetMol

TLK2 Protein, Human, Recombinant (aa 397-772)

General Information

Synonyms:	HsHPK;PKU-ALPHA;PKU-α;tousled-like kinase 2
Protein Construction:	A DNA sequence encoding the human TLK2 (Q86UE8-1) (Leu397-Asn772) was fused with two additional amino acids (Gly & Pro) at the N-terminus. Predicted N terminal: Gly
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q86UE8-1
Molecular Weight:	43.6 kDa (predicted); 44 kDa (reducing conditions)

QC Testing

Biological Activity:	Kinase activity untested
Purity:	> 95 % 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 8.0.

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

Serine / threonine-protein kinase tousled-like 2, also known as PKU-alpha, Tousled-like kinase 2 and TLK2, is a nucleus protein which belongs to the protein kinase superfamily and Ser/Thr protein kinase family. The tousled-like kinases are an evolutionarily conserved family of proteins implicated in DNA repair, DNA replication and mitosis in metazoans and plants. Their absence from the yeasts and other eukaryotic 'microbes' suggests a specific role for them in the development of multicellular organisms. Tousled-like kinase 2 / TLK2 is widely expressed. It is present in fetal placenta, liver, kidney, pancreas, heart and skeletal muscle. It is also found in adult cell lines. Tousled-like kinase 2 / TLK2 contains one protein kinase domain. Tousled-like kinase 2 / TLK2 is rapidly and transiently inhibited by phosphorylation following the generation of DNA double-stranded breaks during S-phase. This is cell cycle checkpoint and ATM-pathway dependent and appears to regulate processes involved in

chromatin assembly.

Reference

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Groth A. et al., 2003, EMBO J. 22: 1676-87.
Beausoleil SA. et al., 2004, Proc Natl Acad Sci. 101: 12130-5.
Mayya V. et al., 2009, Sci Signal. 2: RA46.
Oppermann FS. et al., 2009, Mol Cell Proteomics. 8: 1751-64.