

ZIP Kinase/DAPK3 Protein, Human, Recombinant (GST)

General Information

Synonyms:	death-associated protein kinase 3;DLK;ZIP;ZIPK
Protein Construction:	A DNA sequence encoding the full length of human DAPK3 (NP_001339.1) (Met 1-Arg 454) was fused with the GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	O43293-1
Molecular Weight:	79 kDa (predicted); 70 kDa (reducing conditions)

QC Testing

Biological Activity:	The specific activity was determined to be 5 nmol/min/mg using MBP as substrate.
Purity:	> 85 % 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, 10 mM GSH, 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

Death-associated protein kinase 3, also known as DAP kinase 3, ZIP-kinase, DAPK3 and ZIPK, is a nucleus and cytoplasm protein which belongs to the protein kinase superfamily, CAMK Ser/Thr protein kinase family and DAP kinase subfamily. DAPK3 / ZIPK contains one protein kinase domain. It is a serine/threonine kinase which acts as a positive regulator of apoptosis. It phosphorylates histone H3 on 'Thr-11' at centromeres during mitosis. DAPK3 / ZIPK is a homodimer or forms heterodimers with ATF4. Both interactions require an intact leucine zipper domain and oligomerization is required for full enzymatic activity. It also binds to DAXX and PAWR, possibly in a ternary complex which plays a role in caspase activation. DAPK3 / ZIPK regulates myosin light chain phosphatase through phosphorylation of MYPT1 thereby regulating the assembly of the actin cytoskeleton, cell migration, invasiveness of tumor cells, smooth muscle contraction and neurite outgrowth. It is involved in the formation of promyelocytic

leukemia protein nuclear body (PML-NB), one of many subnuclear domains in the eukaryotic cell nucleus, and which is involved in oncogenesis and viral infection.

Reference

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