

# ZPK (473CT23.12.5): sc-517378

## BACKGROUND

ZPK (leucine-zipper protein kinase, also designated MUK and DLK) is a serine/threonine kinase containing two potential leucine-zipper motifs. ZPK is highly conserved between human and mouse, and is expressed at high levels in the brain and kidney. ZPK exhibits cell type-specific expression in the epithelial compartments of other organ systems including stomach, kidney, liver, and pancreas, and is thought to play a role in the development and maintenance of a variety of specialized cells. ZPK is also thought to act as a negative regulator of cell growth. Expression of ZPK has been correlated with the growth response of hepatocyte subpopulations in regenerating liver tissue. ZPK has also been shown to activate the JNK/SAPK pathway.

## REFERENCES

1. Reddy, U.R., et al. 1994. Cloning of a novel putative protein kinase having a leucine zipper domain from human brain. *Biochem. Biophys. Res. Commun.* 202: 613-620.
2. Blouin, R., et al. 1996. Cell-specific expression of the ZPK gene in adult mouse tissues. *DNA* 15: 631-642.
3. Bergeron, P., et al. 1997. Inhibition of cell growth by overexpression of the ZPK gene. *Biochem. Biophys. Res. Commun.* 231: 153-155.
4. Hirai, S.I., et al. 1997. MST/MLK2, a member of the mixed lineage kinase family, directly phosphorylates and activates SEK1, an activator of c-Jun N-terminal kinase/stress-activated protein kinase. *J. Biol. Chem.* 272: 15167-15173.
5. Douziech, M., et al. 1998. Zonal induction of mixed lineage kinase ZPK/DLK/MUK gene expression in regenerating mouse liver. *Biochem. Biophys. Res. Commun.* 249: 927-932.

## CHROMOSOMAL LOCATION

Genetic locus: MAP3K12 (human) mapping to 12q13.13.

## SOURCE

ZPK (473CT23.12.5) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to amino acids 828-859 of ZPK of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

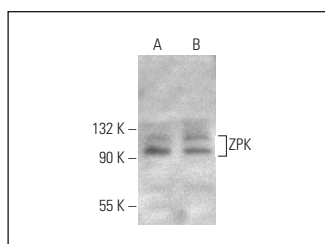
## APPLICATIONS

ZPK (473CT23.12.5) is recommended for detection of ZPK of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for ZPK siRNA (h): sc-39259, ZPK shRNA Plasmid (h): sc-39259-SH and ZPK shRNA (h) Lentiviral Particles: sc-39259-V.

Positive Controls: T-47D cell lysate: sc-2293 or WI-38 whole cell lysate: sc-364260.

## DATA



ZPK (473CT23.12.5): sc-517378. Western blot analysis of ZPK expression in T-47D (A) and WI-38 (B) whole cell lysates.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.