

LZK (N-17): sc-49298

BACKGROUND

Mixed lineage kinases (MLKs) are a family of protein kinases sharing two leucine zipper-like motifs which mediate protein dimerization, and a kinase domain with a similar primary structure to both the tyrosine-specific and the serine/threonine-specific kinase classes. Members of the MLK family include MLK1, MLK2, MLK3, MLK4, MELK, LZK and DLK. MLKs are expressed in neuronal cells where they are likely to interact between Rac 1/Cdc42, MKK4 and MKK7 in death signaling. Leucine zipper-bearing kinase (LZK) also activates the c-Jun-NH₂ terminal kinase/stress-activated protein kinase (JNK/SAPK) pathway through MKK7. Through its dual leucine zipper-like motif, LZK forms dimers/oligomers which are important for activation of the JNK/SAPK pathway. LZK is predominantly expressed in the pancreas, while moderate expression is observed in adult brain, liver and placenta tissues.

REFERENCES

1. Sakuma, H., et al. 1997. Molecular cloning and functional expression of a cDNA encoding a new member of mixed lineage protein kinase from human brain. *J. Biol. Chem.* 272: 28622-28629.
2. Ikeda, A., et al. 2001. Identification and characterization of functional domains in a mixed lineage kinase LZK. *FEBS Lett.* 488: 190-195.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604915. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Masaki, M., et al. 2003. Mixed lineage kinase LZK and antioxidant protein-1 activate NFκB synergistically. *Eur. J. Biochem.* 270: 76-83.
5. Zhang, Q.G., et al. 2005. Knock-down of POSH expression is neuroprotective through downregulating activation of the MLK3-MKK4-JNK pathway following cerebral ischaemia in the rat hippocampal CA1 subfield. *J. Neurochem.* 95: 784-795.
6. Pei, D.S., et al. 2005. N-Acetylcysteine inhibit the translocation of mixed lineage kinase-3 from cytosol to plasma membrane during transient brain ischemia in rat hippocampus. *Neurosci. Lett.* 391: 38-42.
7. Lotharius, J., et al. 2005. Progressive degeneration of human mesencephalic neuron-derived cells triggered by dopamine-dependent oxidative stress is dependent on the mixed-lineage kinase pathway. *J. Neurosci.* 25: 6329-6342.

CHROMOSOMAL LOCATION

Genetic locus: MAP3K13 (human) mapping to 3q27.2; Map3k13 (mouse) mapping to 16 B1.

SOURCE

LZK (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of LZK of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49298 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LZK (N-17) is recommended for detection of LZK (Leucine Zipper-bearing Kinase) of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

LZK (N-17) is also recommended for detection of LZK (Leucine Zipper-bearing Kinase) in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for LZK siRNA (h): sc-60976, LZK siRNA (m): sc-60977, LZK shRNA Plasmid (h): sc-60976-SH, LZK shRNA Plasmid (m): sc-60977-SH, LZK shRNA (h) Lentiviral Particles: sc-60976-V and LZK shRNA (m) Lentiviral Particles: sc-60977-V.

Molecular Weight of LZK: 135-150 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.