SANTA CRUZ BIOTECHNOLOGY, INC.

LZK (1-RY22): sc-134380

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 Rac1/Cdc42, MKK4 and MKK7 in death signaling. Leucine zipper-bearing kinase (LZK) also activates the c-Jun-NH_2 terminal kinase/stress-activated protein kinase (JNK/SAPK) pathway though 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.

SOURCE

LZK (1-RY22) is a mouse monoclonal antibody raised against recombinant LZK protein of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

LZK (1-RY22) is recommended for detection of LZK of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

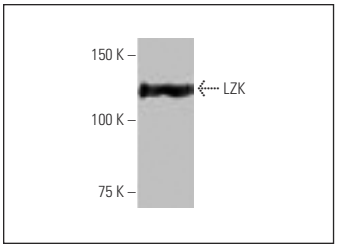
Molecular Weight of LZK: 135-150 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



LZK (1-RY22): sc-134380. Western blot analysis of LZK expression in K-562 whole cell lysate.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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