

MLK2 (E-20): sc-19124

BACKGROUND

Mixed lineage kinases are a family of protein kinases sharing two leucine zipper-like motifs, which are known to mediate protein dimerization, and a kinase domain whose primary structure is similar to both the tyrosine-specific and the serine/threonine-specific kinase classes. Members of the mixed-lineage kinase (MLK) family include MLK1, MLK2, MLK3 and dual leucine zipper kinase, also designated DLK. MLKs are expressed in neuronal cells where they are likely to interact between Rac1/Cdc42, MKK4 and MKK7 in death signaling. The MLK1 gene is expressed in epithelial tumor cell lines of the colon, breast and esophagus. The MLK2 gene encodes a predicted 954 amino acid, Src homology 3 (SH3) domain-containing protein. The MLK3 gene encodes an 847 amino acid, SH3 domain- and proline rich region-containing protein. Apoptosis mechanisms rely on MLKs as an upstream intermediate of mitochondrial cytochrome c release and caspase activation.

REFERENCES

1. Dorow, D.S., et al. 1993. Identification of a new family of human epithelial protein kinases containing two leucine/isoleucine-zipper domains. *Eur. J. Biochem.* 213: 701-710.
2. Ing, Y.L., et al. 1994. MLK-3: identification of a widely-expressed protein kinase bearing an SH3 domain and a leucine zipper-basic region domain. *Oncogene* 9: 1745-1750.
3. Dorow, D.S., et al. 1995. Complete nucleotide sequence, expression, and chromosomal localisation of human mixed-lineage kinase 2. *Eur. J. Biochem.* 234: 492-500.
4. Hirai, S., 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. Leung, I.W., et al. 1998. Dimerization via tandem leucine zippers is essential for the activation of the mitogen-activated protein kinase kinase kinase, MLK-3. *J. Biol. Chem.* 273: 32408-32415.

CHROMOSOMAL LOCATION

Genetic locus: MAP3K10 (human) mapping to 19q13.2; Map3k10 (mouse) mapping to 7 A3.

SOURCE

MLK2 (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MLK2 of human origin.

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-19124 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

MLK2 (E-20) is recommended for detection of MLK2 of mouse and 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)], 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).

Suitable for use as control antibody for MLK2 siRNA (h): sc-39111, MLK2 siRNA (m): sc-149467, MLK2 shRNA Plasmid (h): sc-39111-SH, MLK2 shRNA Plasmid (m): sc-149467-SH, MLK2 shRNA (h) Lentiviral Particles: sc-39111-V and MLK2 shRNA (m) Lentiviral Particles: sc-149467-V.

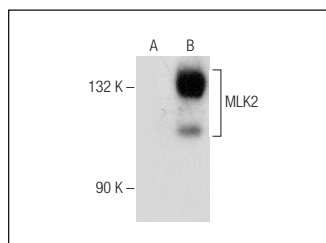
Molecular Weight of MLK2: 103 kDa.

Positive Controls: MLK2 (m): 293 Lysate: sc-178940.

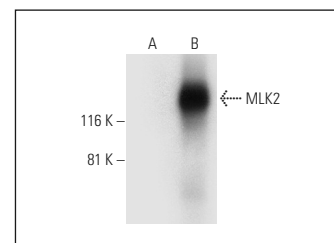
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



MLK2 (E-20): sc-19124. Western blot analysis of MLK2 expression in non-transfected: sc-110760 (A) and mouse MLK2 transfected: sc-178940 (B) 293 whole cell lysates.



MLK2 (E-20): sc-19124. Western blot analysis of MLK2 expression in non-transfected: sc-110760 (A) and mouse MLK2 transfected: sc-178940 (B) 293 whole cell lysates.

STORAGE

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



Try **MLK2 (H-4): sc-393675**, our highly recommended monoclonal alternative to MLK2 (E-20).