

# MLK2 (H-4): sc-393675

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

MLK2 (H-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 841-860 near the C-terminus of MLK2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MLK2 (H-4) is available conjugated to agarose (sc-393675 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393675 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393675 PE), fluorescein (sc-393675 FITC), Alexa Fluor® 488 (sc-393675 AF488), Alexa Fluor® 546 (sc-393675 AF546), Alexa Fluor® 594 (sc-393675 AF594) or Alexa Fluor® 647 (sc-393675 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393675 AF680) or Alexa Fluor® 790 (sc-393675 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393675 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## APPLICATIONS

MLK2 (H-4) is recommended for detection of MLK2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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.

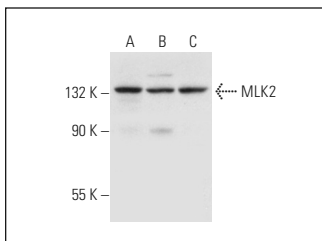
Molecular Weight of MLK2: 103 kDa.

Positive Controls: MLK2 (m): 293 Lysate: sc-178940, SH-SY5Y cell lysate: sc-3812 or SJRH30 cell lysate: sc-2287.

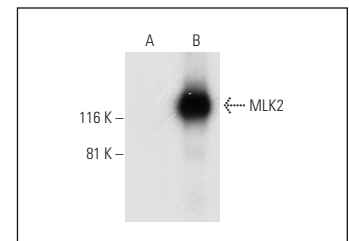
## RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



MLK2 (H-4): sc-393675. Western blot analysis of MLK2 expression in SH-SY5Y (A), SJRH30 (B) and HEL 92.1.7 (C) whole cell lysates.



MLK2 (H-4): sc-393675. 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.

## RESEARCH USE

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

## PROTOCOLS

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