

MLK4 (E-11): sc-398697

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, MLK4, MELK, LZK 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.

REFERENCES

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- Nagata, K., et al. 1998. The MAP kinase kinase kinase MLK2 co-localizes with activated JNK along microtubules and associates with kinesin superfamily motor KIF3. *EMBO J.* 17: 149-158.
- Leung, I.W. and Lassam, N. 1999. Dimerization via tandem leucine zippers is essential for the activation of the mitogen-activated protein kinase kinase, MLK-3. *J. Biol. Chem.* 273: 32408-32415.
- Xu, Z., et al. 2001. The MLK family mediates c-Jun N-terminal kinase activation in neuronal apoptosis. *Mol. Cell. Biol.* 21: 4713-4724.
- Gallo, K.A. and Johnson, G.L. 2002. Mixed-lineage kinase control of JNK and p38 MAPK pathways. *Nat. Rev. Mol. Cell Biol.* 3: 663-672.
- Falsig, J., et al. 2004. Specific modulation of astrocyte inflammation by inhibition of mixed lineage kinases with CEP-1347. *J. Immunol.* 173: 2762-2770.

CHROMOSOMAL LOCATION

Genetic locus: KIAA1804 (human) mapping to 1q42.2; BC021891 (mouse) mapping to 8 E2.

SOURCE

MLK4 (E-11) is a mouse monoclonal antibody raised against amino acids 375-437 mapping within an internal region of MLK4 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MLK4 (E-11) is available conjugated to agarose (sc-398697 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398697 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398697 PE), fluorescein (sc-398697 FITC), Alexa Fluor[®] 488 (sc-398697 AF488), Alexa Fluor[®] 546 (sc-398697 AF546), Alexa Fluor[®] 594 (sc-398697 AF594) or Alexa Fluor[®] 647 (sc-398697 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-398697 AF680) or Alexa Fluor[®] 790 (sc-398697 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

MLK4 (E-11) is recommended for detection of MLK4 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 MLK4 siRNA (h): sc-61061, MLK4 siRNA (m): sc-61062, MLK4 shRNA Plasmid (h): sc-61061-SH, MLK4 shRNA Plasmid (m): sc-61062-SH, MLK4 shRNA (h) Lentiviral Particles: sc-61061-V and MLK4 shRNA (m) Lentiviral Particles: sc-61062-V.

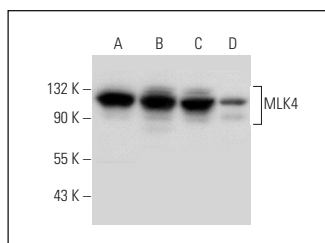
Molecular Weight of MLK4: 114 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or human liver extract: sc-363766.

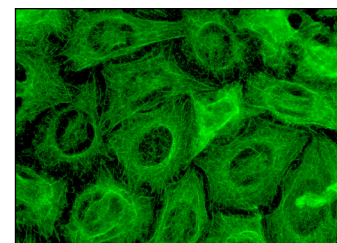
RECOMMENDED SUPPORT REAGENTS

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



MLK4 (E-11): sc-398697. Western blot analysis of MLK4 expression in U-251-MG (A), Jurkat (B) and K-562 (C) whole cell lysates and human liver tissue extract (D).



MLK4 (E-11): sc-398697. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization.

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.