

MLTK (H-300): sc-134970

BACKGROUND

MLTK (mitogen-activated protein kinase kinase kinase MLT, leucine zipper and sterile α motif-containing kinase, HCCS-4) is an 800 amino acid protein encoded by the human gene ZAK. MLTK belongs to the protein kinase superfamily, STE Ser/Thr protein kinase family, MAP kinase kinase kinase subfamily and contains one protein kinase domain and one SAM (sterile α motif) domain. MLTK is a cytoplasmic protein found as a homodimer. It will translocate to the nucleus upon ultraviolet B irradiation. It is a stress-activated component of a protein kinase signal transduction cascade and helps regulate the JNK and p38 pathways. MLTK also has a role in the regulation of S and G₂ cell cycle checkpoint by direct phosphorylation of Chk2. Isoform 1 causes cell shrinkage and disruption of actin stress fibers and may have a role in neoplastic cell transformation and cancer development. Isoform 1 also phosphorylates Histone H3 at Ser 28.

REFERENCES

- Liu, T.C., et al. 2000. Cloning and expression of ZAK, a mixed lineage kinase-like protein containing a leucine-zipper and a sterile α motif. *Biochem. Biophys. Res. Commun.* 274: 811-816.
- Gotoh, I., et al. 2001. Identification and characterization of a novel MAP kinase kinase kinase, MLTK. *J. Biol. Chem.* 276: 4276-4286.

CHROMOSOMAL LOCATION

Genetic locus: ZAK (human) mapping to 2q31.1; Zak (mouse) mapping to 2 C3.

SOURCE

MLTK (H-300) is a rabbit polyclonal antibody raised against amino acids 176-475 mapping within an internal region of MLTK of human origin.

PRODUCT

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

APPLICATIONS

MLTK (H-300) is recommended for detection of MLTK of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

MLTK (H-300) is also recommended for detection of MLTK in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for MLTK siRNA (h): sc-62625, MLTK siRNA (m): sc-62626, MLTK shRNA Plasmid (h): sc-62625-SH, MLTK shRNA Plasmid (m): sc-62626-SH, MLTK shRNA (h) Lentiviral Particles: sc-62625-V and MLTK shRNA (m) Lentiviral Particles: sc-62626-V.

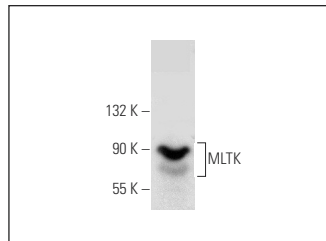
Molecular Weight of MLTK: 91 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



MLTK (H-300): sc-134970. Western blot analysis of MLTK expression in HeLa 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 or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **MLTK (A-2): sc-390924**, our highly recommended monoclonal alternative to MLTK (H-300).