

LMTK3 (I-17): sc-100418

BACKGROUND

The phosphorylation of proteins by protein kinases and protein phosphatases is a key event in most nuclear and cytoplasmic processes. The ability to activate and deactivate proteins via phosphorylation or dephosphorylation is important for cell division, cell differentiation, DNA repair and transcription. LMTK3 (lemur tyrosine kinase 3), also known as LMR3 or TYKLM3, is a 1,460 amino acid protein that contains one protein kinase domain. One of several members of the protein kinase superfamily, LMTK3 is expressed at low levels in brain and testes where it catalyzes the ATP-dependent phosphorylation of target proteins, thereby modifying their function.

REFERENCES

1. Bairoch, A. and Claverie, J.M. 1988. Sequence patterns in protein kinases. *Nature* 331: 22.
2. Hanks, S.K., et al. 1988. The protein kinase family: conserved features and deduced phylogeny of the catalytic domains. *Science* 241: 42-52.
3. Hanks, S.K. and Quinn, A.M. 1991. Protein kinase catalytic domain sequence database: identification of conserved features of primary structure and classification of family members. *Methods Enzymol.* 200: 38-62.
4. Nagase, T., et al. 2001. Prediction of the coding sequences of unidentified human genes. XXI. The complete sequences of 60 new cDNA clones from brain which code for large proteins. *DNA Res.* 8: 179-187.

CHROMOSOMAL LOCATION

Genetic locus: LMTK3 (human) mapping to 19q13.33; Lmtk3 (mouse) mapping to 7 B4.

SOURCE

LMTK3 (I-17) is a mouse monoclonal antibody raised against a partial recombinant protein mapping within amino acids 1151-1250 of LMTK3 of human origin.

PRODUCT

Each vial contains 50 µg IgG₁ kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

LMTK3 (I-17) is recommended for detection of LMTK3 of mouse, rat 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LMTK3 siRNA (h): sc-97567, LMTK3 siRNA (m): sc-146769, LMTK3 shRNA Plasmid (h): sc-97567-SH, LMTK3 shRNA Plasmid (m): sc-146769-SH, LMTK3 shRNA (h) Lentiviral Particles: sc-97567-V and LMTK3 shRNA (m) Lentiviral Particles: sc-146769-V.

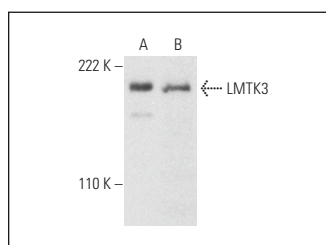
Molecular Weight of LMTK3: 154 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, SK-BR-3 cell lysate: sc-2218 or NIH/3T3 whole cell lysate: sc-2210.

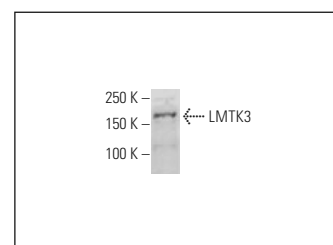
RECOMMENDED SUPPORT REAGENTS

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



LMTK3 (I-17): sc-100418. Western blot analysis of LMTK3 expression in SK-BR-3 (A) and NIH/3T3 (B) whole cell lysates.



LMTK3 (I-17): sc-100418. Western blot analysis of LMTK3 expression in HeLa nuclear extract.

SELECT PRODUCT CITATIONS

1. Wakatsuki, T., et al. 2013. Prognostic role of lemur tyrosine kinase-3 germline polymorphisms in adjuvant gastric cancer in Japan and the United States. *Mol. Cancer Ther.* 12: 2261-2272.
2. Stebbing, J., et al. 2018. LMTK3 confers chemo-resistance in breast cancer. *Oncogene* 37: 3113-3130.
3. Du, M., et al. 2023. Integrated multi-omics approach to distinct molecular characterization and classification of early-onset colorectal cancer. *Cell Rep. Med.* 4: 100974.

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.