

# LOK (F-24): sc-130805

## BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. LOK (lymphocyte-oriented kinase), also known as STK10 (serine/threonine kinase 10), is a 968 amino acid protein that contains one protein kinase domain and belongs to the Ser/Thr protein kinase family. Expressed in lymphoid organs, LOK functions to catalyze the ATP-dependent phosphorylation of target proteins, such as MBP (myelin basic protein) and Histone H2A, thereby playing a role in signaling pathways throughout the cell.

## REFERENCES

1. Kuramochi, S., Moriguchi, T., Kuida, K., Endo, J., Semba, K., Nishida, E. and Karasuyama, H. 1997. LOK is a novel mouse STE20-like protein kinase that is expressed predominantly in lymphocytes. *J. Biol. Chem.* 272: 22679-22684.
2. Kuramochi, S., Matsuda, Y., Okamoto, M., Kitamura, F., Yonekawa, H. and Karasuyama, H. 1999. Molecular cloning of the human gene STK10 encoding lymphocyte-oriented kinase, and comparative chromosomal mapping of the human, mouse, and rat homologues. *Immunogenetics* 49: 369-375.
3. Ellinger-Ziegelbauer, H., Karasuyama, H., Yamada, E., Tsujikawa, K., Todokoro, K. and Nishida, E. 2000. STE20-like kinase (SLK), a regulatory kinase for polo-like kinase (Plk) during the G<sub>2</sub>/M transition in somatic cells. *Genes Cells* 5: 491-498.
4. Tao, L., Wadsworth, S., Mercer, J., Mueller, C., Lynn, K., Siekierka, J. and August, A. 2002. Opposing roles of serine/threonine kinases MEKK1 and LOK in regulating the CD28 responsive element in T-cells. *Biochem. J.* 363: 175-182.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603919. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Walter, S.A., Cutler, R.E., Martinez, R., Gishizky, M. and Hill, R.J. 2003. Stk10, a new member of the polo-like kinase kinase family highly expressed in hematopoietic tissue. *J. Biol. Chem.* 278: 18221-18228.
7. Wissing, J., Jansch, L., Nimtz, M., Dieterich, G., Hornberger, R., Kéri, G., Wehland, J. and Daub, H. 2007. Proteomics analysis of protein kinases by target class-selective prefractionation and tandem mass spectrometry. *Mol. Cell. Proteomics* 6: 537-547.

## CHROMOSOMAL LOCATION

Genetic locus: STK10 (human) mapping to 5q35.1.

## SOURCE

LOK (F-24) is a purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of LOK of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

LOK (F-24) is recommended for detection of LOK of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

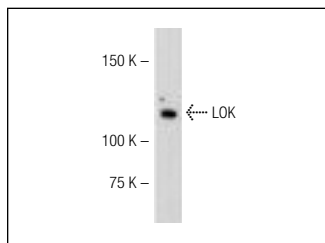
Suitable for use as control antibody for LOK siRNA (h): sc-75685, LOK shRNA Plasmid (h): sc-75685-SH and LOK shRNA (h) Lentiviral Particles: sc-75685-V.

Molecular Weight (predicted) of LOK: 112 kDa.

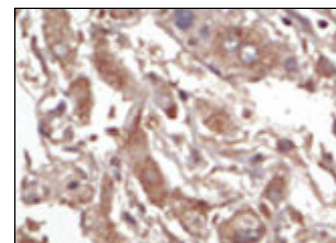
Molecular Weight (observed) of LOK: 130/185 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

## DATA



LOK (F-24): sc-130805. Western blot analysis of LOK expression in Jurkat whole cell lysate.



LOK (F-24): sc-130805. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human hepatocarcinoma tissue showing cytoplasmic 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **LOK (D-6): sc-398083**, our highly recommended monoclonal alternative to LOK (F-24).