

p-Lck (Tyr 192/Ser 194)-R: sc-28445-R

BACKGROUND

The Src gene family of membrane-associated protein tyrosine kinases include c-Src, c-Yes, Fyn, Lck, Hck, Lyn, Blk and c-Fgr. The human Lck gene encodes a lymphocyte-specific tyrosine kinase designated pp56 Lck. Rearrangement and overexpression of the Lck gene occurs in select murine lymphomas. Human lymphomas and neuroblastomas frequently exhibit chromosomal abnormalities within a site in the genome that contains the Lck gene. Resting T cells contain high levels of the Lck protein and mRNA, both of which decline upon activation of T cells. Lck expression may contribute to the pathogenesis of some types of neoplastic disease. Csk phosphorylates Lck on Tyr 505. This phosphorylation event suppresses Lck catalytic activity under certain conditions. The phosphorylation of Lck at Tyr 394 stimulates Lck activity regardless of Tyr 505 phosphorylation status. In response to T cell antigen receptor binding and subsequent signaling, Lck undergoes phosphorylation on residues that include Tyr 192, Ser 59 and Ser 194.

REFERENCES

- Marth, J.D., Peet, R., Krebs, E.G. and Perlmutter, R.M. 1985. A lymphocyte-specific protein-tyrosine kinase gene is rearranged and overexpressed in the murine T cell lymphoma LSTRA. *Cell* 43: 393-404.
- Marth, J.D., Distech, C., Pravcheva, D., Ruddle, F., Krebs, E.G. and Perlmutter, R.M. 1986. Localization of a lymphocyte-specific protein tyrosine kinase gene (Lck) at a site of frequent chromosomal abnormalities in human lymphomas. *Proc. Natl. Acad. Sci. USA* 83: 7400-7404.
- Bolen, J.B., Thompson, P.A., Eiseman, E. and Horak, I.D. 1991. Expression and interactions of the Src family of tyrosine protein kinases in T lymphocytes. *Adv. Cancer Res.* 57: 103-149.
- Bergman, M., Mustelin, T., Oetken, C., Partanen, J., Flint, N.A., Amrein, K.E., Autero, M., Burn, P. and Alitalo, K. 1992. The human p50^{ck} tyrosine kinase phosphorylates p56^{lck} at Tyr-505 and down regulates its catalytic activity. *EMBO J.* 11: 2919-2924.

CHROMOSOMAL LOCATION

Genetic locus: LCK (human) mapping to 1p35.1;; Lck (mouse) mapping to 4 D2.2.

SOURCE

p-Lck (Tyr 192/Ser 194)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Tyr 192 and Ser 194 dually phosphorylated Lck of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-515648 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

p-Lck (Tyr 192/Ser 194)-R is recommended for detection of Tyr 192 and Ser 194 dually phosphorylated Lck 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)], 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).

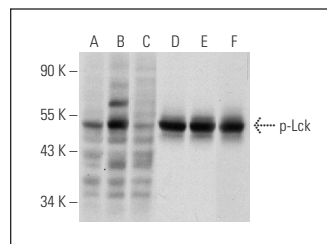
p-Lck (Tyr 192/Ser 194)-R is also recommended for detection of correspondingly phosphorylated Tyr and Ser on Lck in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Lck siRNA (h): sc-29392, Lck siRNA (m): sc-35799, Lck shRNA Plasmid (h): sc-29392-SH, Lck shRNA Plasmid (m): sc-35799-SH, Lck shRNA (h) Lentiviral Particles: sc-29392-V and Lck shRNA (m) Lentiviral Particles: sc-35799-V.

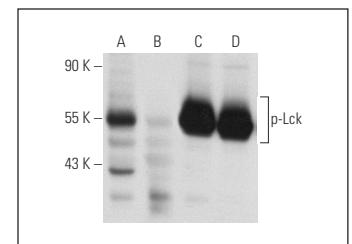
Molecular Weight of p-Lck: 56 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or CCRF-HSB-2 cell lysate: sc-2265.

DATA



Western blot analysis of Lck phosphorylation in untreated (A, D), pervanadate treated (B, E) and pervanadate and lambda protein phosphatase treated (C, F) Jurkat whole cell lysates. Antibodies tested include p-Lck (Tyr 192/Ser 194)-R: sc-28445-R (A, B, C) and Lck (H-95): sc-28882 (D, E, F).



Western blot analysis of Lck phosphorylation in untreated (A, C) and lambda protein phosphatase treated (B, D) CCRF-HSB-2 whole cell lysates. Antibodies tested include p-Lck (Tyr 192/Ser 194)-R: sc-28445-R (A, B) and Lck (H-95): sc-28882 (C, D).

SELECT PRODUCT CITATIONS

- Govers, C., Sebestyen, Z., Roszik, J., van Brakel, M., Berrevoets, C., Szoor, A., Panoutsopoulou, K., Broertjes, M., Van, T., Vereb, G., Szollosi, J. and Debets, R. 2014. TCRs genetically linked to CD28 and CD3ε do not mispair with endogenous TCR chains and mediate enhanced T cell persistence and anti-melanoma activity. *J. Immunol.* 193: 5315-5326.

STORAGE

Store at 4° C, **DO NOT FREEZE** Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.