

LAIR-1 (h2): 293T Lysate: sc-176708

BACKGROUND

Leukocyte-associated Ig-like receptor-1, known as LAIR-1, is a transmembrane glycoprotein that is constitutively expressed on the majority of human peripheral blood mononuclear leukocytes. LAIR-1 is phosphorylated at the Tyr-233 and Tyr-263 residues, and once activated, LAIR-1 recruits SHP-1, an SH2 domain-containing phosphatase. SHP-1 is highly expressed in hematopoietic cells and functions as a negative regulator of cell signaling. SHP-1 also contributes to the establishment of TCR signaling thresholds in both developing and mature T lymphocytes. The binding of LAIR-1 to SHP-1 functions as a mechanism of regulating the role of SHP-1 in cell signaling. Occupancy of LAIR-1 on human myelomonocytic leukemic cell lines inhibits proliferation and leads to programmed cell death (PCD), and cross-linking of the LAIR-1 antigen on natural killer (NK) cells results in strong inhibition of NK cell-mediated cytotoxicity. Protein kinases responsible for tyrosine phosphorylation of LAIR-1 may belong to the Src family since PP1, a Src family kinase inhibitor, significantly inhibits its phosphorylation.

REFERENCES

1. Meyaard, L., et al. 1997. LAIR-1, a novel inhibitory receptor expressed on human mononuclear leukocytes. *Immunity* 7: 283-290.
2. Poggi, A., et al. 2000. Engagement of the leukocyte-associated Ig-like receptor-1 induces programmed cell death and prevents NFκB nuclear translocation in human myeloid leukemias. *Eur. J. Immunol.* 30: 2751-2758.
3. Xu, M., et al. 2000. Identification and characterization of leukocyte-associated Ig-like receptor-1 as a major anchor protein of tyrosine phosphatase SHP-1 in hematopoietic cells. *J. Biol. Chem.* 275: 17440-17446.
4. Fournier, N., et al. 2000. FDF03, a novel inhibitor receptor of the immunoglobulin superfamily, is expressed by human dendritic and myeloid cells. *J. Immunol.* 165: 1197-1209.
5. Sathish, J., et al. 2001. Constitutive association of SHP-1 with leukocyte-associated Ig-like receptor-1 in human T-cells. *J. Immunol.* 166: 1763-1770.

CHROMOSOMAL LOCATION

Genetic locus: LAIR1 (human) mapping to 19q13.42.

PRODUCT

LAIR-1 (h2): 293T Lysate represents a lysate of human LAIR-1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

LAIR-1 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive LAIR-1 antibodies. Recommended use: 10-20 µl per lane.

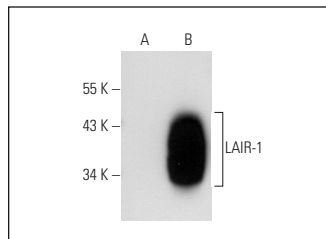
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

LAIR-1 (4j59): sc-71480 is recommended as a positive control antibody for Western Blot analysis of enhanced human LAIR-1 expression in LAIR-1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

DATA



LAIR-1 (4j59): sc-71480. Western blot analysis of LAIR-1 expression in non-transfected: sc-117752 (A) and human LAIR-1 transfected: sc-176708 (B) 293T whole cell lysates.

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.