

LAIR-1 (T-15): sc-21570

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

- Dunn C., et al. 2003. Human cytomegalovirus glycoprotein UL16 causes intracellular sequestration of NKG2D ligands, protecting against natural killer cell cytotoxicity. *J. Exp. Med.* 197: 1427-1439.
- Rolle A., et al. 2003. Effects of human cytomegalovirus infection on ligands for the activating NKG2D receptor of NK cells: up-regulation of UL16-binding protein (ULBP)1 and ULBP2 is counteracted by the viral UL16 protein. *J Immunol.* 171: 902-908.
- Maccalli, C., et al. 2003. NKG2D engagement of colorectal cancer-specific T cells strengthens TCR-mediated antigen stimulation and elicits TCR independent anti-tumor activity. *Eur. J. Immunol.* 33: 2033-2043.
- Poggi, A., et al. 2004. Vdelta1 T lymphocytes from B-CLL patients recognize ULBP3 expressed on leukemic B cells and up-regulated by *trans*-retinoic acid. *Cancer Res.* 64: 9172-9179.

CHROMOSOMAL LOCATION

Genetic locus: LAIR1 (human) mapping to 19q13.4.

SOURCE

LAIR-1 (T-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of LAIR-1 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-21570 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

LAIR-1 (T-15) is recommended for detection of LAIR-1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LAIR-1 siRNA (h): sc-72118, LAIR-1 shRNA Plasmid (h): sc-72118-SH and LAIR-1 shRNA (h) Lentiviral Particles: sc-72118-V.

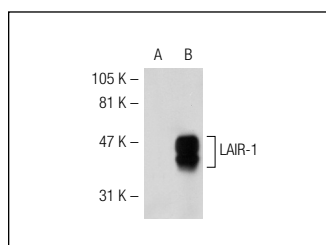
Molecular Weight of LAIR-1: 42 kDa.

Positive Controls: LAIR-1 (h): 293T Lysate: sc-114216 or Jurkat whole cell lysate: sc-2204.

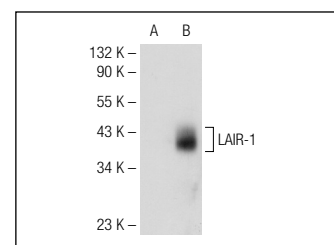
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



LAIR-1 (T-15): sc-21570. Western blot analysis of LAIR-1 expression in non-transfected: sc-117752 (A) and human LAIR-1 transfected: sc-114216 (B) 293T whole cell lysates.



LAIR-1 (T-15): sc-21570. 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.

MONOS
Satisfaction
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Try **LAIR-1 (F-5): sc-398141** or **LAIR-1 (G-1): sc-398140**, our highly recommended monoclonal alternatives to LAIR-1 (T-15).