SANTA CRUZ BIOTECHNOLOGY, INC.

ILT-4 (42D1): sc-53594

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Leukocyte immunoglobulin-like receptors (LIRs) are members of the immunoglobulin superfamily of glycoproteins and are predominantly expressed by monocytes, B cells, dendritic cells, natural killer (NK) cells, peripheral blood leukocytes and tissues such as placenta, lung and liver. These receptors all contain a cytoplasmic immunoreceptor tyrosine-based inhibitory motif (ITIM), have an inhibitory function and are type I membrane proteins. When they bind to MHC (or other ligands) and ITIM is tyrosine phosphorylated, protein-tyrosine phosphatases are recruited and an inhibitory signal cascade triggered. ILT-4, also designated LIR-2, MIR-10 or CD85d antigen, competes with CD8A for binding to class I MHC antigens.

REFERENCES

1. Wagtmann, N., et al. 1997. A new human gene complex encoding the killer cell inhibitory receptors and related monocyte/macrophage receptors. Curr. Biol. 7: 615-618.
2. Colonna, M., et al. 1997. A common inhibitory receptor for major histocompatibility complex class I molecules on human lymphoid and myelomonocytic cells. J. Exp. Med. 186: 1809-1818.
3. Cosman, D., et al. 1997. A novel immunoglobulin superfamily receptor for cellular and viral MHC class I molecules. Immunity 7: 273-282.
4. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 604811. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Shiroishi, M., et al. 2003. Human inhibitory receptors Ig-like transcript 2 (ILT2) and ILT4 compete with CD8 for MHC class I binding and bind preferentially to HLA-G. Proc. Natl. Acad. Sci. USA 100: 8856-8861.
6. Beinhauer, B.G., et al. 2004. Interleukin-10 regulates cell surface and soluble LIR-2 (CD85d) expression on dendritic cells resulting in T cell hyporesponsiveness *in vitro*. Eur. J. Immunol. 34: 74-80.
7. Shiroishi, M., et al. 2006. Structural basis for recognition of the nonclassical MHC molecule HLA-G by the leukocyte Ig-like receptor B2 (LILRB2/LIR2/ILT4/CD85d). Proc. Natl. Acad. Sci. USA 103: 16412-16417.
8. Huynh, O.A., et al. 2007. Downregulation of leucocyte immunoglobulin-like receptor expression in the synovium of rheumatoid arthritis patients after treatment with disease-modifying anti-rheumatic drugs. Rheumatology 46: 742-751.
9. LocusLink Report (LocusID: 10859). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: LILRB2 (human) mapping to 19q13.42.

SOURCE

ILT-4 (42D1) is a rat monoclonal antibody raised against RBL cells transfected with ILT4 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ILT-4 (42D1) is available conjugated to either phycoerythrin (sc-53594 PE) or fluorescein (sc-53594 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

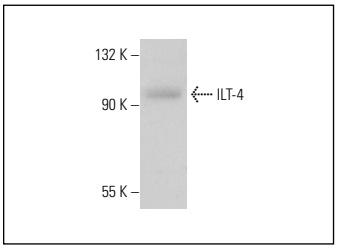
ILT-4 (42D1) is recommended for detection of ILT-4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for ILT-4 siRNA (h): sc-45200, ILT-4 shRNA Plasmid (h): sc-45200-SH and ILT-4 shRNA (h) Lentiviral Particles: sc-45200-V.

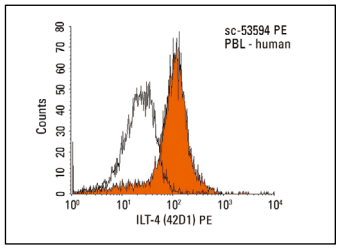
Molecular Weight of ILT-4: 95 kDa.

Positive Controls: NK-92 whole cell lysate: sc-364788.

DATA



ILT-4 (42D1): sc-53594. Western blot analysis of ILT-4 expression in NK-92 whole cell lysate.



ILT-4 (42D1): sc-53594. Indirect FCM analysis of human peripheral blood leukocytes stained with ILT-4 (42D1), followed by PE-conjugated goat anti-rat IgG: sc-3740. Black line histogram represents the isotype control, normal rat IgG_1: sc-3882.

SELECT PRODUCT CITATIONS

1. Rogers, N.M., et al. 2010. Curcumin induces maturation-arrested dendritic cells that expand regulatory T cells *in vitro* and *in vivo*. Clin. Exp. Immunol. 162: 460-473.
2. Rojas-Canales, D., et al. 2012. Early exposure of interferon-γ inhibits signal transducer and activator of transcription-6 signalling and nuclear factor κB activation in a short-term monocyte-derived dendritic cell culture promoting "FAST"regulatory dendritic cells. Clin. Exp. Immunol. 167: 447-458.
3. Zhao, P., et al. 2022. LILRB2-mediated TREM2 signaling inhibition suppresses microglia functions. Mol. Neurodegener. 17: 44.

STORAGE

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