

## ILT-4 (42D1): sc-53594

### 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. Beinbauer, 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 leukocyte 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<sub>2a</sub> 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

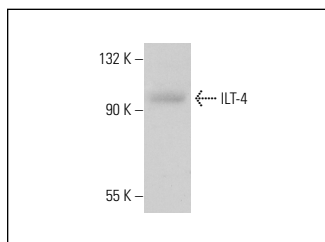
ILT-4 (42D1) is recommended for detection of ILT-4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

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.

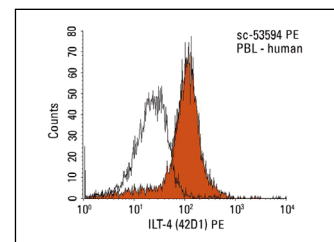
Molecular Weight of ILT-4: 95 kDa.

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<sub>1</sub>: 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.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.