

# ILT (D-6): sc-166549

## BACKGROUND

Leukocyte immunoglobulin-like receptors (ILTs, also known as 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. There are several members of the ILT family, including ILT-1, ILT-2, ILT-3, ILT-4, ILT-5, ILT-6, ILT-7, ILT-8, ILT-11, LIR-6 and LIR-8. These ILT proteins are divided into two subfamilies, namely subfamily A (ILT-1, ILT-6, ILT-7, ILT-8, ILT-11 and LIR-6) and subfamily B (ILT-2, ILT-3, ILT-4, ILT-5 and LIR-8), the former of which function as stimulating receptors and the latter of which function as inhibitory receptors. Characteristically, members of subfamily A have trans-membrane regions containing a charged arginine residue through which they initiate stimulatory cascades, while members of subfamily B contain cytoplasmic immunoreceptor tyrosine-based inhibitory motifs (ITIMs) through which they induce inhibitory signaling cascades.

## REFERENCES

1. Samaridis, J., et al. 1997. Cloning of novel immunoglobulin superfamily receptors expressed on human myeloid and lymphoid cells: structural evidence for new stimulatory and inhibitory pathways. *Eur. J. Immunol.* 27: 660-665.
2. Cosman, D., et al. 1997. A novel immunoglobulin superfamily receptor for cellular and viral MHC class I molecules. *Immunity* 7: 273-282.
3. 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.
4. André, P., et al. 2001. New nomenclature for MHC receptors. *Nat. Immunol.* 2: 661.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604811. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Foster, C.E., et al. 2003. Crystal structure of the human natural killer (NK) cell activating receptor Nkp46 reveals structural relationship to other leukocyte receptor complex immunoreceptors. *J. Biol. Chem.* 278: 46081-46086.
7. Shiroishi, M., et al. 2003. Human inhibitory receptors Ig-like transcript 2 (ILT-2) and ILT-4 compete with CD8 for MHC class I binding and bind preferentially to HLA-G. *Proc. Natl. Acad. Sci. USA* 100: 8856-8861.

## CHROMOSOMAL LOCATION

Genetic locus: LILRA2/LILRB1/LILRB2/LILRB3/LILRA3 (human) mapping to 19q13.42.

## SOURCE

ILT (D-6) is a mouse monoclonal antibody raised against amino acids 162-461 mapping within an extracellular domain of ILT-2 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> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

ILT (D-6) is recommended for detection of ILT family members 1, 2, 4, 5 and 6 of human origin by Western Blotting (starting dilution 1:100, 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).

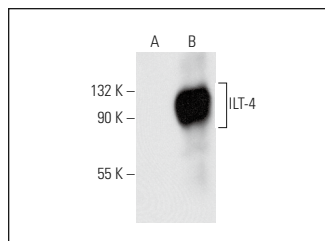
Molecular Weight of different ILT proteins: 33-71 kDa.

Positive Controls: ILT-4 (h): 293T Lysate: sc-115693 or human spleen extract: sc-363779.

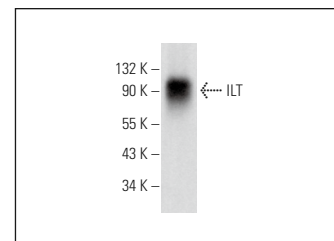
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



ILT (D-6): sc-166549. Western blot analysis of ILT-4 expression in non-transfected: sc-117752 (A) and human ILT-4 transfected: sc-115693 (B) 293T whole cell lysates.



ILT (D-6): sc-166549. Western blot analysis of ILT expression in human spleen tissue extract.

## 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.