

# ILT-2 (VMP55): sc-20065

## 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. Immunoglobulin-like transcript 2 (ILT-2), also known as CD85 or MIR7, is a 650 amino acid glycoprotein that contains a 23 amino acid signal peptide, 4 extracellular C2-type IGSF domains and 4 intracellular ITIM motifs. ILT-2 can bind major histocompatibility (MHC) class I molecules and inhibit cell termination by natural killer (NK) and T cells, and inhibit  $Ca^{2+}$  mobilization in myeloid cells triggered through the B cell antigen receptor and histocompatibility leukocyte antigens (HLA)-DR. ILT-2 contains four putative cytoplasmic tyrosine-based inhibitory motifs and upon tyrosine phosphorylation, associates with the tyrosine phosphatase SHP-1.

## CHROMOSOMAL LOCATION

Genetic locus: LILRB1 (human) mapping to 19q13.42.

## SOURCE

ILT-2 (VMP55) is a mouse monoclonal antibody raised against hairy cell leukaemia cells.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ILT-2 (VMP55) is available conjugated to agarose (sc-20065 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-20065 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-20065 PE), fluorescein (sc-20065 FITC), Alexa Fluor® 488 (sc-20065 AF488), Alexa Fluor® 546 (sc-20065 AF546), Alexa Fluor® 594 (sc-20065 AF594) or Alexa Fluor® 647 (sc-20065 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-20065 AF680) or Alexa Fluor® 790 (sc-20065 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

ILT-2 (VMP55) is recommended for detection of ILT-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for ILT-2 siRNA (h): sc-42812, ILT-2 shRNA Plasmid (h): sc-42812-SH and ILT-2 shRNA (h) Lentiviral Particles: sc-42812-V.

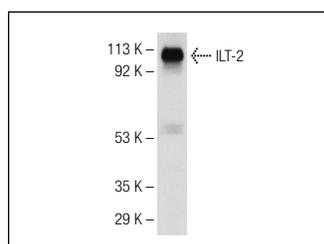
Molecular Weight of ILT-2: 110/90 kDa.

Positive Controls: IB4 whole cell lysate: sc-364780.

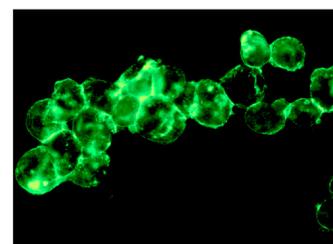
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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-2 (VMP55): sc-20065. Western blot analysis of ILT-2 expression in IB4 whole cell lysate.



ILT-2 (VMP55): sc-20065. Immunofluorescence staining of methanol-fixed IB4 cells showing membrane localization.

## SELECT PRODUCT CITATIONS

- Kim, J.S., et al. 2004. Human cytomegalovirus UL18 alleviated human NK-mediated swine endothelial cell lysis. *Biochem. Biophys. Res. Commun.* 315: 144-150.
- Liang, S., et al. 2006. Human ILT2 receptor associates with murine MHC class I molecules *in vivo* and impairs T cell function. *Eur. J. Immunol.* 36: 2457-2471.
- Prod'homme, V., et al. 2007. The human cytomegalovirus MHC class I homolog UL18 inhibits LIR-1+ but activates LIR-1- NK cells. *J. Immunol.* 178: 4473-4481.
- Lamar, D.L., et al. 2010. Promoter choice and translational repression determine cell type-specific cell surface density of the inhibitory receptor CD85j expressed on different hematopoietic lineages. *Blood* 115: 3278-3286.
- Ketroussi, F., et al. 2011. Lymphocyte cell-cycle inhibition by HLA-G is mediated by phosphatase SHP-2 and acts on the mTOR pathway. *PLoS ONE* 6: e22776.
- Heidenreich, S., et al. 2012. Impact of the NK cell receptor LIR-1 (ILT-2/CD85j/LILRB1) on cytotoxicity against multiple myeloma. *Clin. Dev. Immunol.* 2012: 652130.

## RESEARCH USE

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