SANTA CRUZ BIOTECHNOLOGY, INC.

KIR2DL1 (T-20): sc-17957

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

NKAT (NK-associated transcripts) gene products, known as killer immunoglobulin-like receptors or KIRs, downregulate the cytotoxicity of NK cells upon recognition of specific class I major histocompatibility complex (MHC) molecules on target cells. This family of receptors is characterized by an extracellular region with two to three immunoglobulin-superfamily domains and a cytoplasmic domain with an antigen receptor activation motif (ARAM). KIRs and other inhibitory receptors also possess a common cytoplasmic sequence (I/VxYxxL/V) known as an ITIM (immunoreceptor tyrosine-based inhibitory motif). The human inhibitory human killer cell immunoglobulin-like receptor 2DL1, also designated KIR2DL1, CL-42, NKAT1, P58.1, or CD158α-long form, is a 348 amino acid type I transmembrane protein. KIR2DL1 can bind human leukocyte antigen-C (HLA-C) via both polar and hydrophobic interactions through Met-44 in a binding pocket that coordinates Lys-80 of HLA-C.

REFERENCES

1. Colonna, M. and Samaridis, J. 1995. Cloning of immunoglobulin-superfamily members associated with HLA-C and HLA-B recognition by human natural killer cells. Science 268: 405-408.
2. Katz, G., Markel, G., Mizrahi, S., Arnon, T.I., and Mandelboim, O. 2001. Recognition of HLA-Cw4 but not HLA-Cw6 by the NK cell receptor killer cell Ig-like receptor two-domain short tail number 4. J. Immunol. 166: 7260-7267.
3. Fan, Q.R., Long, E.O. and Wiley, D.C. 2001. Crystal structure of the human natural killer cell inhibitory receptor KIR2DL1-HLA-Cw4 complex. Nat. Immunol. 2: 452-460.
4. Online Mendelian Inheritance in Man, OMIM (TM). Johns Hopkins University, Baltimore, MD. MIM Number: 604936: 10/03/2001: World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. LocusLink Report (LocusID: 3802). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: KIR2DL1 (human) mapping to 19q13.4.

SOURCE

KIR2DL1 (T-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of KIR2DL1 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-17957 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

KIR2DL1 (T-20) is recommended for detection of a broad range of KIR family members 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).

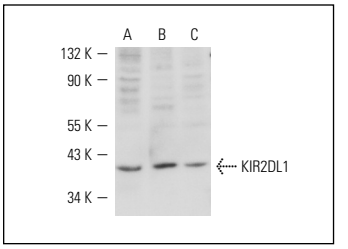
Molecular Weight of KIR2DL1: 36 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

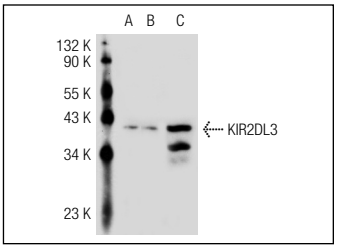
RECOMMENDED SECONDARY REAGENTS

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



KIR2DL1 (T-20): sc-17957. Western blot analysis of KIR2DL1 expression in JM1 (**A**), HeLa (**B**) and Jurkat (**C**) whole cell lysates.



KIR2DL1 (T-20): sc-17957. Western blot analysis of KIR2DL3 expression in non-transfected 293T: sc-117752 (**A**), human KIR2DL3 transfected 293T: sc-114925 (**B**) and HeLa (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Pallandre, J.R., Krzewski, K., Bedel, R., Ryffel, B., Caignard, A., Rohrlich, P.S., Pivot, X., Tiberghien, P., Zitvogel, L., Strominger, J.L. and Borg, C. 2008. Dendritic cell and natural killer cell cross-talk: a pivotal role of CX3CL1 in NK cytoskeleton organization and activation. Blood 112: 4420-4424.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.