SANTA CRUZ BIOTECHNOLOGY, INC.

DAP12 (FL-113): sc-20783

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Natural killer (NK) cells are regulated by stimulatory and inhibitory signals from a variety of receptors. Three main receptor families are responsible for NK cells' recognition of MHC I molecules, including Ly-49, CD94/NKG2 and KIR (killer-cell inhibitory receptor). DAP12 is a phosphoprotein that is involved in the activation of natural killer (NK) cells. This protein interacts with membrane glycoproteins of the KIR family, resulting in cellular activation. DAP12 also binds to CD94/NKG2C, an activating NK cell receptor belonging to the C-type lectin superfamily. Additional proteins that bind to DAP12 include Ly-49D and Ly-49H, which associate with DAP12 in the plasma membrane. Phosphorylated DAP12 binds to ZAP-70 and Syk, suggesting that the activation pathway may be similar to that of the T and B cell antigen receptors.

REFERENCES

1. Lanier, L.L. 1998. NK cell receptors. Annu. Rev. Immunol. 16: 359-393.
2. Lanier, L.L., et al. 1998. Association of DAP12 with activating CD94/NKG2C NK cell receptors. Immunity 8: 693-701.
3. Smith, K.M., et al. 1998. Ly-49D and Ly-49H associate with mouse DAP12 and from activating receptors. J. Immunol. 161: 7-10.

CHROMOSOMAL LOCATION

Genetic locus: TYROBP (human) mapping to 19q13.12; Tyrobp (mouse) mapping to 7 B1.

SOURCE

DAP12 (FL-113) is a rabbit polyclonal antibody raised against amino acids 1-113 representing full length DAP12 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.

APPLICATIONS

DAP12 (FL-113) is recommended for detection of DAP12 of human and, to a lesser extent, mouse and rat 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for DAP12 siRNA (h): sc-35172, DAP12 siRNA (m): sc-42854, DAP12 shRNA Plasmid (h): sc-35172-SH, DAP12 shRNA Plasmid (m): sc-42854-SH, DAP12 shRNA (h) Lentiviral Particles: sc-35172-V and DAP12 shRNA (m) Lentiviral Particles: sc-42854-V.

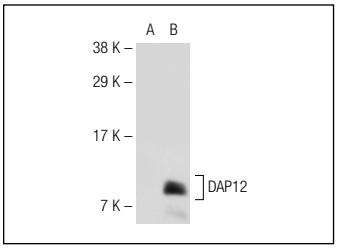
Molecular Weight of DAP12: 12 kDa.

Positive Controls: U-937 cell lysate: sc-2239 or DAP12 (h2): 293T Lysate: sc-174294.

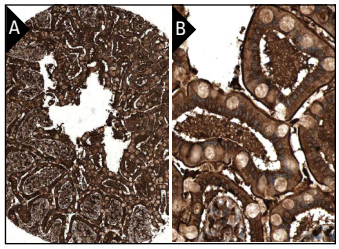
STORAGE

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

DATA



DAP12 (FL-113): sc-20783. Western blot analysis of DAP12 expression in non-transfected: sc-117752 (**A**) and human DAP12 transfected: sc-174294 (**B**) 293T whole cell lysates.



DAP12 (FL-113): sc-20783. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic and membrane staining of glandular cells at low (**A**) and high (**B**) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Kikuchi-Maki, A., et al. 2005. Cutting edge: KIR2DL4 transduces signals into human NK cells through association with the Fc receptor γ protein. J. Immunol. 174: 3859-3863.
2. Karimi, M., et al. 2005. Silencing human NKG2-D, DAP10, and DAP12 reduces cytotoxi-city of activated $CD8^+$ T cells and NK cells. J. Immunol. 175: 7819-7828.
3. Suck, G., et al. 2005. KHYG-1, a model for the study of enhanced natural killer cell cytotoxicity. Exp. Hematol. 33: 1160-1171.
4. Satoh, J.I., et al. 2011. Immunohistochemical characterization of microglia in Nasu-Hakola disease brains. Neuropathology 31: 363-375.
5. Satoh, J., et al. 2012. Phosphorylated Syk expression is enhanced in Nasu-Hakola disease brains. Neuropathology 32: 149-157.
6. Satoh, J., et al. 2012. Gene expression profile of THP-1 monocytes following knockdown of DAP12, a causative gene for Nasu-Hakola disease. Cell. Mol. Neurobiol. 32: 337-343.

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.