SANTA CRUZ BIOTECHNOLOGY, INC.

DAP10 (FL-93): sc-25623

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

DAP10, a transmembrane type 1 protein, is predominantly expressed in hematopoietic cells. On SDS-PAGE, DAP10 migrates slightly slower than expected due to glycosylation. DAP10 forms an activating receptor complex with its physiological partner, NKG2D. NKG2D is an activating receptor that initiates Natural Killer and T cell mediated cytotoxicity against tumors expressing its ligands MICA and MICB. The DAP10-NKG2D complex, as well as MICA and MICB, are stress-inducible molecules expressed in epithelial tumors. Both DAP10 and NKG2D contain inhibition motifs in their cytoplasmic domains that recruit tyrosine-phosphatases, resulting in the inactivation of Natural Killer cells. The cytoplasmic region of DAP10 also contains a binding site for the SH_2 domain of the p85 subunit of PI 3-kinase which suggests a role for DAP10 as a signal transducer leading to PI 3-kinase activation.

REFERENCES

1. Songyang, Z., et al. 1993. SH_2 domains recognize specific phosphopeptide sequences. Cell 72: 767-778.
2. Groh, V., et al. 1996. Cell stress-regulated human major histocompatibility complex class I gene expressed in gastrointestinal epithelium. Proc. Natl. Acad. Sci. USA 93: 12445-12450.

CHROMOSOMAL LOCATION

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

SOURCE

DAP10 (FL-93) is a rabbit polyclonal antibody raised against amino acids 1-93 representing full length DAP10 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

DAP10 (FL-93) is recommended for detection of DAP10 of mouse, rat and 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).

Suitable for use as control antibody for DAP10 siRNA (h): sc-35171, DAP10 siRNA (m): sc-42853, DAP10 shRNA Plasmid (h): sc-35171-SH, DAP10 shRNA Plasmid (m): sc-42853-SH, DAP10 shRNA (h) Lentiviral Particles: sc-35171-V and DAP10 shRNA (m) Lentiviral Particles: sc-42853-V.

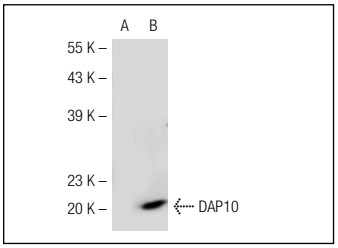
Molecular Weight of DAP10: 10 kDa.

Positive Controls: DAP10 (h): 293T Lysate: sc-116977 or CTLL-2 cell lysate: sc-2242.

STORAGE

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

DATA



DAP10 (FL-93): sc-25623. Western blot analysis of DAP10 expression in non-transfected: sc-117752 (**A**) and human DAP10 transfected: sc-116977 (**B**) 293T whole cell lysates.

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. Graham, D.B., et al. 2006. Vav1 controls DAP10-mediated natural cytotoxicity by regulating actin and microtubule dynamics. J. Immunol. 177: 2349-2355.
3. Allez, M., et al. 2007. $CD4^+NKG2D^+$ T cells in Crohn's disease mediate inflammatory and cytotoxic responses through MICA interactions. Gastroenterology 132: 2346-2358.
4. Horng, T., et al. 2007. NKG2D signaling is coupled to the interleukin 15 receptor signaling pathway. Nat. Immunol. 8: 1345-1352.
5. Roda-Navarro, P., et al. 2009. The traffic of the NKG2D/DAP10 receptor complex during natural killer (NK) cell activation. J. Biol. Chem. 284: 16463-16472.
6. Benitez, A.C., et al. 2011. Expression, signaling proficiency, and stimulatory function of the NKG2D lymphocyte receptor in human cancer cells. Proc. Natl. Acad. Sci. USA 108: 4081-4086.

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.