SANTA CRUZ BIOTECHNOLOGY, INC.

DAP10 (H-3): sc-374196

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 SH2 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. SH2 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.
3. Lanier, L., et al. 1998. Association of DAP12 with activating CD94/NKG2C NK cell receptors. Immunity 8: 693-701.
4. Bauer, S., et al. 1999. Activation of NK cells and T-cells by NKG2D, a receptor for stress-inducible MICA. Science 285: 727-729.

CHROMOSOMAL LOCATION

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

SOURCE

DAP10 (H-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 51-79 at the C-terminus of DAP10 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DAP10 (H-3) is available conjugated to agarose (sc-374196 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374196 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374196 PE), fluorescein (sc-374196 FITC), Alexa Fluor® 488 (sc-374196 AF488), Alexa Fluor® 546 (sc-374196 AF546), Alexa Fluor® 594 (sc-374196 AF594) or Alexa Fluor® 647 (sc-374196 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374196 AF680) or Alexa Fluor® 790 (sc-374196 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374196 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

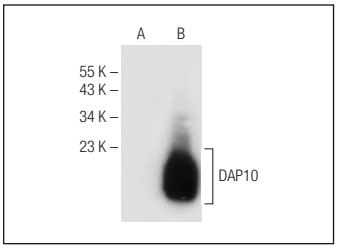
DAP10 (H-3) is recommended for detection of DAP10 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

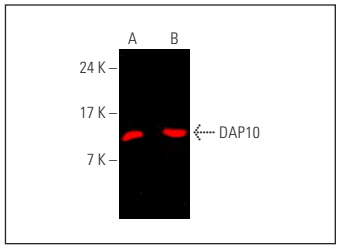
Molecular Weight of DAP10: 10 kDa.

Positive Controls: DAP10 (h): 293T Lysate: sc-116977, HL-60 whole cell lysate: sc-2209 or HEL 92.1.7 cell lysate: sc-2270.

DATA



DAP10 (H-3): sc-374196. Western blot analysis of DAP10 expression in non-transfected: sc-117752 (**A**) and human DAP10 transfected: sc-116977 (**B**) 293T whole cell lysates.



DAP10 (H-3) Alexa Fluor® 790: sc-374196 AF790. Direct near-infrared western blot analysis of DAP10 expression in HEL 92.1.7 (**A**) and HL-60 (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Low, S., et al. 2018. Delta-like 4 activates Notch 3 to regulate self-renewal in skeletal muscle stem cells. Stem Cells 36: 458-466.
2. Li, Y., et al. 2018. Human iPSC-derived natural killer cells engineered with chimeric antigen receptors enhance anti-tumor activity. Cell Stem Cell 23: 181-192.e5.
3. Huyan, T., et al. 2022. miR-221-5p and miR-186-5p are the critical bladder cancer derived exosomal miRNAs in natural killer cell dysfunction. Int. J. Mol. Sci. 23: 15177.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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