SANTA CRUZ BIOTECHNOLOGY, INC.

DAP12 (G-5): sc-133174

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 class I molecules, including Ly-49, CD94/NKG2 and KIR (killer-cell inhibitory receptor). DAP12 is a phosphoprotein that is involved in the activation of 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.

CHROMOSOMAL LOCATION

Genetic locus: TYROBP (human) mapping to 19q13.12.

SOURCE

DAP12 (G-5) is a mouse monoclonal antibody raised against amino acids 1-113 representing full length DAP12 of human origin.

PRODUCT

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

DAP12 (G-5) is available conjugated to agarose (sc-133174 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133174 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133174 PE), fluorescein (sc-133174 FITC), Alexa Fluor® 488 (sc-133174 AF488), Alexa Fluor® 546 (sc-133174 AF546), Alexa Fluor® 594 (sc-133174 AF594) or Alexa Fluor® 647 (sc-133174 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133174 AF680) or Alexa Fluor® 790 (sc-133174 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

DAP12 (G-5) is recommended for detection of DAP12 of 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), 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 shRNA Plasmid (h): sc-35172-SH and DAP12 shRNA (h) Lentiviral Particles: sc-35172-V.

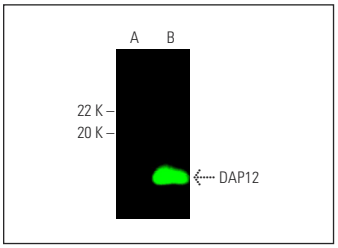
Molecular Weight of DAP12: 12 kDa.

Positive Controls: U-937 cell lysate: sc-2239 or DAP12 (h): 293T Lysate: sc-112269.

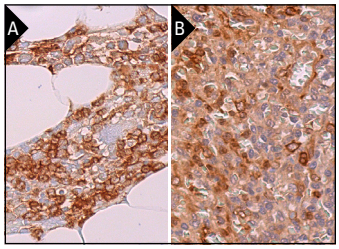
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



DAP12 (G-5): sc-133174. Near-infrared western blot analysis of DAP12 expression in non-transfected: sc-110760 (**A**) and human DAP12 transfected: sc-112269 (**B**) 293T whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



DAP12 (G-5): sc-133174. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic staining of hematopoietic cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of cells in white pulp and cells in red pulp (**B**).

SELECT PRODUCT CITATIONS

1. Lou, Q., et al. 2014. The C-type lectin OCILRP2 costimulates EL4 T cell activation via the DAP12-Raf-MAP kinase pathway. PLoS ONE 9: e113218.
2. Liu, Y., et al. 2019. Nonmuscle myosin heavy chain IIA recognizes sialic acids on sialylated RNA viruses to suppress proinflammatory responses via the DAP12-Syk pathway. mBio 10: e00574-19.

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.