SANTA CRUZ BIOTECHNOLOGY, INC.

CD13 (3D8): sc-13536

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD13, or aminopeptidase N, is a type II transmembrane glycoprotein that is expressed on most cells of myeloid origin, including monocytes, basophils, eosinophils, neutrophils and myeloid leukemias. CD13 is also found on certain epithelial cells, fibroblasts and osteoclasts. CD13 acts as a zinc-binding metalloprotease that plays a role in digestion and may function in the inactivation of some regulatory peptides such as enkephalins. CD13 may play a role in the invasion of cancer cells by enhancing their invasive capacity and metastatic behavior. The activity of CD13 can be inactivated using specific inhibitors that evoke apoptosis of CD13-positive cancer cells. Basic fibroblast growth factor (βFGF) expression upregulates CD13 expression in human melanoma cells by activating both the myeloid and the epithelial CD13 promoter.

CHROMOSOMAL LOCATION

Genetic locus: ANPEP (human) mapping to 15q26.1; Anpep (mouse) mapping to 7 D3.

SOURCE

CD13 (3D8) is a mouse monoclonal antibody raised against human myeloid cells.

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.

CD13 (3D8) is available conjugated to agarose (sc-13536 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13536 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13536 PE), fluorescein (sc-13536 FITC), Alexa Fluor® 488 (sc-13536 AF488), Alexa Fluor® 546 (sc-13536 AF546), Alexa Fluor® 594 (sc-13536 AF594) or Alexa Fluor® 647 (sc-13536 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13536 AF680) or Alexa Fluor® 790 (sc-13536 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CD13 (3D8) is recommended for detection of myleiod cell CD13 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for CD13 siRNA (h): sc-29960, CD13 siRNA (m): sc-37242, CD13 shRNA Plasmid (h): sc-29960-SH, CD13 shRNA Plasmid (m): sc-37242-SH, CD13 shRNA (h) Lentiviral Particles: sc-29960-V and CD13 shRNA (m) Lentiviral Particles: sc-37242-V.

Molecular Weight of human CD13: 150 kDa.

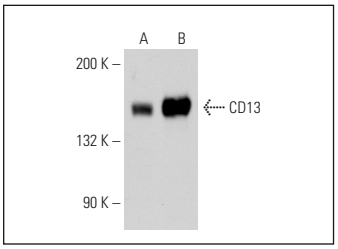
Molecular Weight of rat CD13: 120 kDa.

Positive Controls: CCD-1064Sk cell lysate: sc-2263.

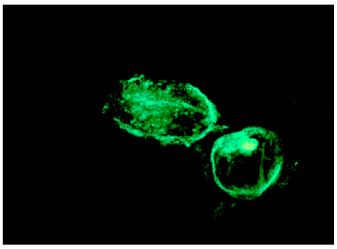
STORAGE

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

DATA



Western blot analysis of CD13 expression in GBB whole cell lysate (**A**) and GBB whole cell lysate immunoprecipitated with CD13 (BR2): sc-53970 (**B**) and detected with CD13 (3D8): sc-13536. Immunoprecipitation reagent used: Protein G PLUS-Agarose: sc-2002.



CD13 (3D8): sc-13536. Immunofluorescence staining of methanol-fixed CCD-1064Sk cells showing membrane staining.

SELECT PRODUCT CITATIONS

1. Pisitkun, T., et al. 2004. Identification and proteomic profiling of exosomes in human urine. Proc. Natl. Acad. Sci. USA 36: 13368-13373.
2. Fontijn, D., et al. 2006. CD13/Aminopeptidase N overexpression by basic fibroblast growth factor mediates enhanced invasiveness of 1F6 human melanoma cells. Br. J. Cancer 94: 1627-1636.
3. Lai, A., et al. 2010. Inhibitory effect of anti-aminopeptidase N/CD13 antibodies on fibroblast migration. Mol. Cell. Biochem. 343: 191-199.
4. Kato, K., et al. 2011. Sodium butyrate inhibits the self-renewal capacity of endometrial tumor side-population cells by inducing a DNA damage response. Mol. Cancer Ther. 10: 1430-1439.
5. Lai, A., et al. 2012. Microarray-based identification of aminopeptidase N target genes in keratinocyte conditioned medium-stimulated dermal fibroblasts. J. Cell. Biochem. 113: 1061-1068.
6. Li, J., et al. 2014. Circulating fibrocytes stabilize blood vessels during angiogenesis in a paracrine manner. Am. J. Pathol. 184: 556-571.
7. Gonzalez, E., et al. 2014. Human mammospheres secrete hormone-regulated active extracellular vesicles. PLoS ONE 9: e83955.
8. Royo, F., et al. 2016. Transcriptomic profiling of urine extracellular vesicles reveals alterations of CDH3 in prostate cancer. Oncotarget 7: 6835-6846.
9. Toshiyama, R., et al. 2018. Poly(ethylene glycol)-poly(lysine) block copolymer-ubenimex conjugate targets aminopeptidase N and exerts an antitumor effect in hepatocellular carcinoma stem cells. Oncogene 38: 244-260.
10. Lin, S.C., et al. 2020. Role of Syndecan-1 and exogenous heparin in hepatoma sphere formation. Biochem. Cell Biol. 98: 112-119.

RESEARCH USE

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