

CD13 (B-F10): sc-65292

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 (bFGF) expression upregulates CD13 expression in human melanoma cells by activating both the myeloid and the epithelial CD13 promoter.

REFERENCES

- Bradstock, K.F., et al. 1985. Human myeloid differentiation antigens identified by monoclonal antibodies: expression on leukemic cells. *Pathology* 17: 392-399.
- Bradstock, K.F., et al. 1985. Myeloid progenitor surface antigen identified by monoclonal antibody. *Br. J. Haematol.* 61: 11-20.
- McMichael, A.J., et al. 1987. Leucocyte Typing III. White Cell Differentiation Antigens. New York: Oxford University Press.
- Favaloro, E.J., et al. 1988. Further characterization of human myeloid antigens (gp160.95; gp150; gp67): investigation of epitopic heterogeneity and non-haemopoietic distribution using panels of monoclonal antibodies belonging to CD11b, CD13 and CD33. *Br. J. Haematol.* 69: 163-171.
- Knapp, W., et al. 1989. Leucocyte Typing IV. White Cell Differentiation Antigens. New York: Oxford University Press.
- Favaloro, E.J. 1991. CD13 ("gp150"; aminopeptidase-N): co-expression on endothelial and haemopoietic cells with conservation of functional activity. *Immunol. Cell Biol.* 69: 253-260.

CHROMOSOMAL LOCATION

Genetic locus: ANPEP (human) mapping to 15q26.1.

SOURCE

CD13 (B-F10) is a mouse monoclonal antibody raised against KG-1a cell line of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD13 (B-F10) is available conjugated to either phycoerythrin (sc-65292 PE) or fluorescein (sc-65292 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) 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

CD13 (B-F10) is recommended for detection of CD13 of 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)] and flow cytometry (1 µg per 1 x 10⁶ cells).

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

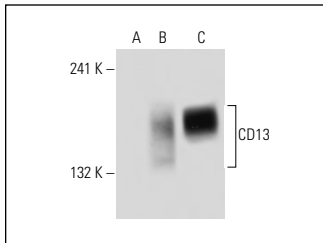
Molecular Weight of CD13: 150 kDa.

Positive Controls: CD13 (h): 293T Lysate: sc-116664 or CCD-1064Sk cell lysate: sc-2263.

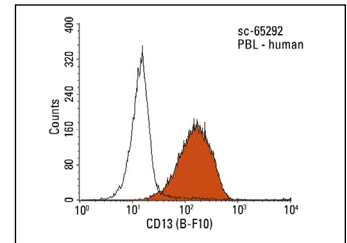
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (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).

DATA



CD13 (B-F10): sc-65292. Western blot analysis of CD13 expression in non-transfected 293T: sc-117752 (A), human CD13 transfected 293T: sc-116664 (B) and CCD-1064Sk (C) whole cell lysates.



CD13 (B-F10): sc-65292. Indirect FCM analysis of human peripheral blood leukocytes stained with CD13 (B-F10), followed by PE-conjugated goat anti-mouse IgG: sc-3738. Black line histogram represents the isotype control, normal mouse IgG₁: sc-3877.

SELECT PRODUCT CITATIONS

- Wulfaenger, J., et al. 2008. Aminopeptidase N (APN)/CD13-dependent CXCR4 downregulation is associated with diminished cell migration, proliferation and invasion. *Mol. Membr. Biol.* 25: 72-82.
- Gao, J.J., et al. 2011. LYP, a bestatin dimethylaminoethyl ester, inhibited cancer angiogenesis both *in vitro* and *in vivo*. *Microvasc. Res.* 82: 122-130.
- Cui, S.X., et al. 2014. 13F-1, a novel 5-fluorouracil prodrug containing an Asn-Gly-Arg (NO₂) COOCH₃ tripeptide, inhibits human colonic carcinoma growth by targeting aminopeptidase N (APN/CD13). *Eur. J. Pharmacol.* 734: 50-59.

RESEARCH USE

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