

CD13 (WM15): sc-51522

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

1. Bradstock, K.F., et al. 1985. Human myeloid differentiation antigens identified by monoclonal antibodies: expression on leukemic cells. *Pathology* 17: 392-399.
2. Bradstock, K.F., et al. 1985. Myeloid progenitor surface antigen identified by monoclonal antibody. *Br. J. Haematol.* 61: 11-20.
3. McMichael, A.J., et al, eds. 1987. *Leucocyte Typing III*. New York: Oxford University Press.

CHROMOSOMAL LOCATION

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

SOURCE

CD13 (WM15) is a mouse monoclonal antibody raised against AML cells of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD13 (WM15) is available conjugated fluorescein (sc-51522 FITC, 100 tests in 2 ml), for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

CD13 (WM15) is recommended for detection of CD13 of mouse, rat and human origin by 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 flow cytometry (1 µg per 1 x 10⁶ cells).

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.

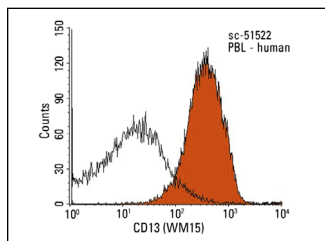
Molecular Weight of rat CD13: 120 kDa.

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



CD13 (WM15): sc-51522. Indirect FCM analysis of human peripheral blood leukocytes stained with CD13 (WM15), followed by PE-conjugated goat anti-mouse IgG₁: sc-3764. Black line histogram represents the isotype control, normal mouse IgG₁: sc-3877.

SELECT PRODUCT CITATIONS

1. Lai, A., et al. 2010. Inhibitory effect of anti-aminopeptidase N/CD13 antibodies on fibroblast migration. *Mol. Cell. Biochem.* 343: 191-199.
2. Haraguchi, N., et al. 2010. CD13 is a therapeutic target in human liver cancer stem cells. *J. Clin. Invest.* 120: 3326-3339.
3. Kuriyama, T., et al. 2012. Engulfment of hematopoietic stem cells caused by down-regulation of CD47 is critical in the pathogenesis of hemophagocytic lymphohistiocytosis. *Blood* 120: 4058-4067.
4. Lai, A., et al. 2013. Topical application of aminopeptidase N-neutralizing antibody accelerates wound closure. *Mol. Cell. Biochem.* 372: 95-100.
5. Schuster, A., et al. 2014. Maintenance of the enteric stem cell niche by bacterial lipopolysaccharides? Evidence and perspectives. *J. Cell. Mol. Med.* 18: 1429-1443.
6. Castillo, L.M., et al. 2017. Expression of typical osteoclast markers by PBMCs after PEG-induced fusion as a model for studying osteoclast differentiation. *J. Mol. Histol.* 48: 169-185.
7. Schepsky, A., et al. 2020. Melflufen, a peptide-conjugated alkylator, is an efficient anti-neo-plastic drug in breast cancer cell lines. *Cancer Med.* 9: 6726-6738.
8. Ji, S., et al. 2021. Suppression of CD13 enhances the cytotoxic effect of chemotherapeutic drugs in hepatocellular carcinoma cells. *Front. Pharmacol.* 12: 660377.
9. Nestic, D., et al. 2022. Integrin $\alpha v \beta 3$ and disulfide bonds play important roles in NGR-retargeted adenovirus transduction efficiency. *Life Sci.* 291: 120116.

RESEARCH USE

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