SANTA CRUZ BIOTECHNOLOGY, INC.

CD71 (b3/25): sc-65877

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD71, also known as the transferrin receptor (TFR), is a type II membrane glycoprotein that exists as a disulfide-linked homodimer of two identical subunits. CD71 binds to two molecules of transferrin and a serum iron-transport protein, and directs the cellular uptake of iron via receptor-mediated endocytosis. CD71 is expressed, typically at high levels, on all proliferating cells, reticulocytes and erythroid precursors. It is not expressed on resting leukocytes, but is upregulated upon activation of lymphocytes, monocytes and macrophages. CD71 is also found on most dividing cells and on brain endothelium. A second transferrin receptor, TFR2, also mediates the uptake of transferrin-bound iron. TFR2 is a two-subunit homodimer and is highly expressed in liver as well as in hepatocytes and erythroid precursors. Mutations in the TFR2 gene result in hereditary hemochromatosis type III (HFE3), an iron overloading disorder predominant in Caucasians.

REFERENCES

1. Lesley, J., et al. 1984. Expression of transferrin receptor on murine hematopoietic progenitors. Cell. Immunol. 83: 14-25.
2. McClelland, A., et al. 1984. The human transferrin receptor gene: genomic organization, and the complete primary structure of the receptor deduced from a cDNA sequence. Cell 39: 267-274.

CHROMOSOMAL LOCATION

Genetic locus: TFRC (human) mapping to 3q29.

SOURCE

CD71 (b3/25) is a mouse monoclonal antibody raised against haematopoietic cell line K-562 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CD71 (b3/25) is recommended for detection of CD71 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 immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for CD71 siRNA (h): sc-37070, CD71 shRNA Plasmid (h): sc-37070-SH and CD71 shRNA (h) Lentiviral Particles: sc-37070-V.

Molecular Weight of CD71: 85-95 kDa.

Molecular Weight of CD71 dimer: 190 kDa.

Positive Controls: CCRF-CEM whole cell lysate: sc-2225, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

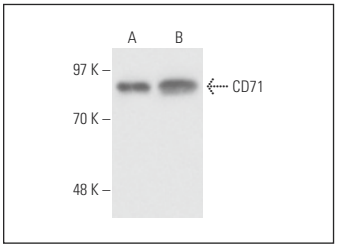
RESEARCH USE

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

STORAGE

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

DATA



CD71 (b3/25): sc-65877. Western blot analysis of CD71 expression in K-562 (**A**) and CCRF-CEM (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Das, S. and Pellett, P.E. 2011. Spatial relationships between markers for secretory and endosomal machinery in human cytomegalovirus-infected cells versus those in uninfected cells. J. Virol. 85: 5864-5879.
2. Baub, K., et al. 2014. Phosphorylation of the Usher syndrome 1G protein SANS controls Magi2-mediated endocytosis. Hum. Mol. Genet. 23: 3923-3942.
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4. Holland, P., et al. 2016. HS1BP3 negatively regulates autophagy by modulation of phosphatidic acid levels. Nat. Commun. 7: 13889.
5. Ailte, I., et al. 2017. Exogenous lysophospholipids with large head groups perturb clathrin-mediated endocytosis. Traffic 18: 176-191.
6. Verboogen, D.R.J., et al. 2018. Secretory vesicles of immune cells contain only a limited number of interleukin 6 molecules. FEBS Lett. 592: 1535-1544.
7. Younes, S.A., et al. 2018. Cycling $CD4^+$ T cells in HIV-infected immune non-responders have mitochondrial dysfunction. J. Clin. Invest. 128: 5083-5094.
8. Soreng, K., et al. 2018. SNX18 regulates ATG9A trafficking from recycling endosomes by recruiting Dynamin-2. EMBO Rep. 19: e44837.
9. Querol Cano, L., et al. 2019. Intracellular Galectin-9 controls dendritic cell function by maintaining plasma membrane rigidity. iScience 22: 240-255.
10. Obashi, K., et al. 2023. A conformational switch in clathrin light chain regulates lattice structure and endocytosis at the plasma membrane of mammalian cells. Nat. Commun. 14: 732.