SANTA CRUZ BIOTECHNOLOGY, INC.

CD71 (G-8): sc-393719

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; Tfrc (mouse) mapping to 16 B3.

SOURCE

CD71 (G-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 708-737 near the C-terminus of CD71 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.

CD71 (G-8) is available conjugated to agarose (sc-393719 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393719 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393719 PE), fluorescein (sc-393719 FITC), Alexa Fluor® 488 (sc-393719 AF488), Alexa Fluor® 546 (sc-393719 AF546), Alexa Fluor® 594 (sc-393719 AF594) or Alexa Fluor® 647 (sc-393719 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393719 AF680) or Alexa Fluor® 790 (sc-393719 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393719 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

CD71 (G-8) is recommended for detection of CD71 of mouse, rat and 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).

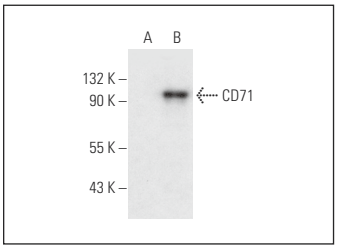
Suitable for use as control antibody for CD71 siRNA (h): sc-37070, CD71 siRNA (m): sc-37071, CD71 shRNA Plasmid (h): sc-37070-SH, CD71 shRNA Plasmid (m): sc-37071-SH, CD71 shRNA (h) Lentiviral Particles: sc-37070-V and CD71 shRNA (m) Lentiviral Particles: sc-37071-V.

Molecular Weight of CD71: 85-95 kDa.

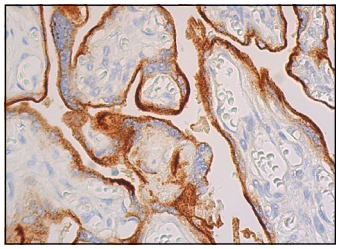
Molecular Weight of CD71 dimer: 190 kDa.

Positive Controls: CD71 (h): 293T Lysate: sc-175273.

DATA



CD71 (G-8): sc-393719. Western blot analysis of CD71 expression in non-transfected: sc-117752 (**A**) and human CD71 transfected: sc-175273 (**B**) 293T whole cell lysates.



CD71 (G-8): sc-393719. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing membrane and cytoplasmic staining of trophoblastic cells.

SELECT PRODUCT CITATIONS

1. Bauckman, K.A. and Mysorekar, I.U. 2016. Ferritinophagy drives uropathogenic *Escherichia coli* persistence in bladder epithelial cells. Autophagy 12: 850-863.
2. Bitonto, V., et al. 2020. L-ferritin: a theranostic agent of natural origin for MRI visualization and treatment of breast cancer. J. Control. Release 319: 300-310.
3. Liu, J., et al. 2021. HFE inhibits type I IFNs signaling by targeting the SQSTM1-mediated MAVS autophagic degradation. Autophagy 17: 1962-1977.
4. Gioelli, N., et al. 2022. Neuropilin 1 and its inhibitory ligand mini-tryptophanyl-tRNA synthetase inversely regulate VE-cadherin turnover and vascular permeability. Nat. Commun. 13: 4188.
5. Kim, H., et al. 2023. Transferrin receptor-mediated iron uptake promotes colon tumorigenesis. Adv. Sci. 10: e2207693.

RESEARCH USE

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