SANTA CRUZ BIOTECHNOLOGY, INC.

CD71 (Ber-T9): sc-19675

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.
3. Lesley, J.F., et al. 1985. Inhibition of cell growth by monoclonal anti-transferrin receptor antibodies. Mol. Cell. Biol. 5: 1814-1821.

CHROMOSOMAL LOCATION

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

SOURCE

CD71 (Ber-T9) is a mouse monoclonal antibody raised against HPB-ALL cell line 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 (Ber-T9) is available conjugated to either phycoerythrin (sc-19675 PE) or fluorescein (sc-19675 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

RESEARCH USE

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

APPLICATIONS

CD71 (Ber-T9) is recommended for detection of CD71 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

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.

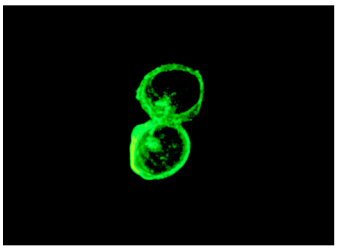
Molecular Weight of CD71: 85-95 kDa.

Molecular Weight of CD71 dimer: 190 kDa.

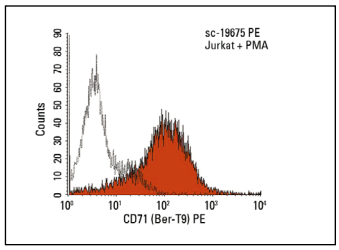
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CD71 (Ber-T9): sc-19675. Immunofluorescence staining of methanol-fixed Jurkat cells showing membrane localization.



CD71 (Ber-T9) FITC: sc-19675 FITC. FCM analysis of PMA-stimulated Jurkat cells. Black line histogram represents the isotype control, normal mouse IgG_1-FITC: sc-2855.

SELECT PRODUCT CITATIONS

1. Hayashi, R., et al. 2008. Enrichment of corneal epithelial stem/progenitor cells using cell surface markers, Integrin α6 and CD71. Biochem. Biophys. Res. Commun. 367: 256-263.
2. Fujimori, Y., et al. 2009. Isolation of small-sized human epidermal progenitor/stem cells by Gravity Assisted Cell Sorting (GACS). J. Dermatol. Sci. 56: 181-187.
3. Pontiggia, L., et al. 2009. Markers to evaluate the quality and self-renewing potential of engineered human skin substitutes *in vitro* and after transplantation. J. Invest. Dermatol. 129: 480-490.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CONJUGATES

See **CD71 (3B8 2A1): sc-32272** for CD71 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.