

CD71 (PA-1): sc-69737

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

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3. Lesley, J.F., et al. 1985. Inhibition of cell growth by monoclonal anti-transferrin receptor antibodies. *Mol. Cell. Biol.* 5: 1814-1821.
4. Kemp, J.D., et al. 1987. Role of the transferrin receptor in lymphocyte growth: a rat IgG monoclonal antibody against the murine transferrin receptor produces highly selective inhibition of T and B cell activation protocols. *J. Immunol.* 138: 2422-2426.
5. Sauvage, C.A., et al. 1987. Effects of monoclonal antibodies that block transferrin receptor function on the *in vivo* growth of a syngeneic murine leukemia. *Cancer Res.* 47: 747-753.
6. Kemp, J.D., et al. 1989. Inhibition of lymphocyte activation with anti-transferrin receptor Mabs: a comparison of three reagents and further studies of their range of effects and mechanism of action. *Cell. Immunol.* 122: 218-230.
7. Testa, U., et al. 1993. The transferrin receptor. *Crit. Rev. Oncog.* 4: 241-276.
8. Brekelmans, P., et al. 1994. Transferrin receptor expression as a marker of immature cycling thymocytes in the mouse. *Cell. Immunol.* 159: 331-339.
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CHROMOSOMAL LOCATION

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

SOURCE

CD71 (PA-1) is a mouse monoclonal antibody raised against leukemia cells of human origin.

PRODUCT

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

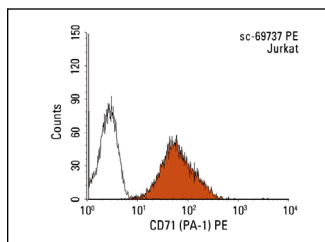
APPLICATIONS

CD71 (PA-1) is recommended for detection of CD71 of 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).

Molecular Weight of CD71: 85-95 kDa.

Molecular Weight of CD71 dimer: 190 kDa.

DATA



CD71 (PA-1) PE: sc-69737 PE. FCM analysis of Jurkat cells. Black line histogram represents the isotype control, normal mouse IgG₁-PE: sc-2866.

STORAGE

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

RESEARCH USE

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

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.