SANTA CRUZ BIOTECHNOLOGY, INC.

CD71 (OX26): sc-53059

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.

CHROMOSOMAL LOCATION

Genetic locus: TFRC (human) mapping to 3q29; Tfrc (mouse) mapping to 16 B3.

SOURCE

CD71 (OX26) is a mouse monoclonal antibody raised against PHA activated lymphocytes of rat origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD71 (OX26) is available conjugated to either phycoerythrin (sc-53059 PE) or fluorescein (sc-53059 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

CD71 (OX26) is recommended for detection of CD71 of mouse, rat and 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)], 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 flow cytometry (1 µg per 1 x 10^6 cells).

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: L6 whole cell lysate: sc-364196.

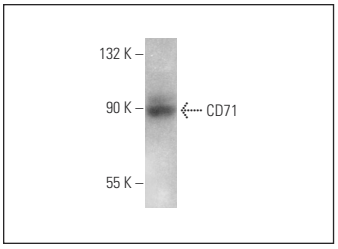
STORAGE

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

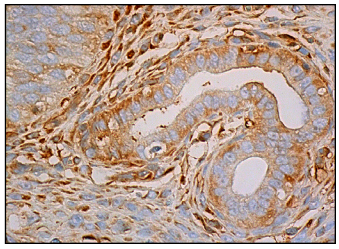
RESEARCH USE

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

DATA



CD71 (OX26): sc-53059. Western blot analysis of CD71 expression in L6 whole cell lysate.



CD71 (OX26): sc-53059. Immunoperoxidase staining of formalin fixed, paraffin-embedded rat pre-menopausal uterus tissue showing cytoplasmic staining of glandular cells and cells in endometrial stroma.

SELECT PRODUCT CITATIONS

1. Peng, L.H., et al. 2013. Transplantation of bone-marrow-derived mesenchymal and epidermal stem cells contribute to wound healing with different regenerative features. Cell Tissue Res. 352: 573-583.
2. Haobam, B., et al. 2014. Rab17-mediated recycling endosomes contribute to autophagosome formation in response to group A *Streptococcus* invasion. Cell. Microbiol. 16: 1806-1821.
3. Nozawa, T., et al. 2017. The STX6-VTI1B-VAMP3 complex facilitates xenophagy by regulating the fusion between recycling endosomes and autophagosomes. Autophagy 13: 57-69.
4. DeGregorio-Rocasolano, N., et al. 2018. Iron-loaded transferrin (Tf) is detrimental whereas iron-free Tf confers protection against brain ischemia by modifying blood Tf saturation and subsequent neuronal damage. Redox Biol. 15: 143-158.
5. Amani, H., et al. 2019. Selenium nanoparticles for targeted stroke therapy through modulation of inflammatory and metabolic signaling. Sci. Rep. 9: 6044.
6. Amani, H., et al. 2019. Would colloidal gold nanocarriers present an effective diagnosis or treatment for ischemic stroke? Int. J. Nanomedicine 14: 8013-8031.
7. Choi, D.H., et al. 2021. Treadmill exercise alleviates brain iron dyshomeostasis accelerating neuronal Amyloid-β production, neuronal cell death, and cognitive impairment in transgenic mice model of Alzheimer's disease. Mol. Neurobiol. 58: 3208-3223.

CONJUGATES

See **CD71 (YTA 74.4): sc-59112** for CD71 antibody conjugates, iincluding AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.