SANTA CRUZ BIOTECHNOLOGY, INC.

transferrin (I-20): sc-22597

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

Iron (Fe) is a tightly metabolically controlled mineral and growth factor present in all living cells. Iron not bound in erythrocyte hemoglobin is transported by transferrin (Tf), the iron transport protein of vertebrate serum. The transferrin protein contains two homologous domains, each of which contain an Fe-binding site. The majority of transferrin is synthesized in the liver and secreted into the blood, but it is also produced in lower amounts in testis and brain as well as in oligodendrocytes, where transferrin is an early marker of oligodendrocyte differentiation. From the blood, transferrin is internalized by erythroblasts and reticulocytes upon binding the transferrin receptor (TfR), also designated CD71, through a system of coated pits and vesicles. After Fe release, transferrin is returned to the extracellular medium, where it can be reused. Defects in the transferrin gene results in atransferrinemia, a rare autosomal recessive disorder characterized by microcytic anemia and iron loading.

CHROMOSOMAL LOCATION

Genetic locus: TF (human) mapping to 3q22.1; Trf (mouse) mapping to 9 F1.

SOURCE

transferrin (I-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of transferrin of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-22597 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

transferrin (I-20) is recommended for detection of transferrin of mouse, rat and, to a lesser extent, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for transferrin siRNA (h): sc-37176, transferrin siRNA (m): sc-37177, transferrin shRNA Plasmid (h): sc-37176-SH, transferrin shRNA Plasmid (m): sc-37177-SH, transferrin shRNA (h) Lentiviral Particles: sc-37176-V and transferrin shRNA (m) Lentiviral Particles: sc-37177-V.

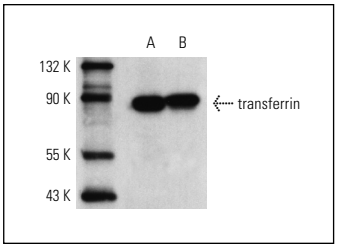
Molecular Weight of transferrin: 79 kDa.

Positive Controls: mouse liver extract: sc-2256 or rat kidney extract: sc-2394.

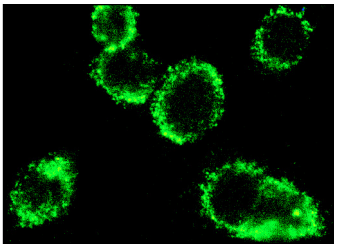
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



transferrin (I-20): sc-22597. Western blot analysis of transferrin expression in mouse liver (**A**) and rat kidney (**B**) tissue extracts.



transferrin (I-20): sc-22597. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Burton, T., et al. 2002. Transforming growth factor-β-induced transcription of the Alzheimer β-amyloid precursor protein gene involves interaction between the CTCF-complex and Smads. Biochem. Biophys. Res. Commun. 295: 713-723.
2. Martínez, R., et al. 2007. Ferrylmyoglobin impairs secretion of VLDL triacylglycerols from stored intracellular pools: involvement of lipid peroxidation. Biochim. Biophys. Acta 1771: 590-599.
3. Jang, S.M., et al. 2010. Control of transferrin expression by β-amyloid through the CP2 transcription factor. FEBS J. 277: 4054-4065.
4. Feng, Y., et al. 2010. Effects of PFNA exposure on expression of junction-associated molecules and secretory function in rat Sertoli cells. Reprod. Toxicol. 30: 429-437.
5. Lubieniecka, J.M., et al. 2011. Biomarkers for severity of spinal cord injury in the cerebrospinal fluid of rats. PLoS ONE 6: e19247.
6. Yosifov, D.Y., et al. 2012. Interleukin-6, osteopontin and Raf/MEK/ERK signaling modulate the sensitivity of human myeloma cells to alkylphosphocholines. Leuk. Res. 36: 764-772.