SANTA CRUZ BIOTECHNOLOGY, INC.

transferrin (H-65): sc-21011

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 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 (H-65) is a rabbit polyclonal antibody raised against amino acids 326-390 of transferrin of human origin.

PRODUCT

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

transferrin (H-65) is available conjugated to agarose (sc-21011 AC), 500 µg /0.25 ml agarose in 1 ml, for IP.

STORAGE

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

APPLICATIONS

transferrin (H-65) is recommended for detection of transferrin of human and, to a lesser extent, mouse and rat 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 and 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 transferrin siRNA (h): sc-37176, transferrin siRNA (m): sc-37177, transferrin siRNA (r): sc-156164, transferrin shRNA Plasmid (h): sc-37176-SH, transferrin shRNA Plasmid (m): sc-37177-SH, transferrin shRNA Plasmid (r): sc-156164-SH, transferrin shRNA (h) Lentiviral Particles: sc-37176-V, transferrin shRNA (m) Lentiviral Particles: sc-37177-V and transferrin shRNA (r) Lentiviral Particles: sc-156164-V.

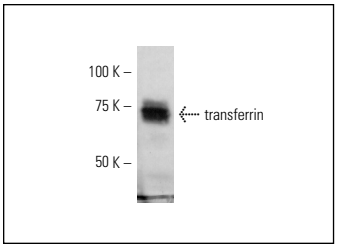
Molecular Weight of transferrin: 79 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

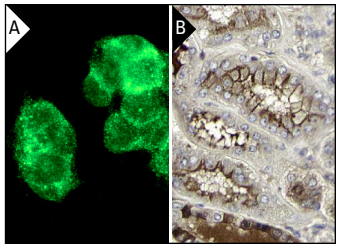
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



transferrin (H-65): sc-21011. Western blot analysis of transferrin expression in Hep G2 whole cell lysate.



transferrin (H-65): sc-21011. Immunofluorescence staining of methanol-fixed Hep G2 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane and cytoplasmic staining of cells in tubuli. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Lin, K.H., et al. 2003. Plasma protein regulation by thyroid hormone. J Endocrinol. 179: 367-377.
2. Koumakpayi, I.H., et al. 2011. Macropinocytosis inhibitors and Arf6 regulate ErbB3 nuclear localization in prostate cancer cells. Mol. Carcinog. 50: 901-912.
3. Borriello, A., et al. 2016. Iron overload enhances human mesenchymal stromal cell growth and hampers matrix calcification. Biochim. Biophys. Acta. E-published.

RESEARCH USE

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

PROTOCOLS

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