

transferrin (E-8): sc-393595

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 attransferrinemia, a rare autosomal recessive disorder characterized by microcytic anemia and iron loading.

CHROMOSOMAL LOCATION

Genetic locus: TF (human) mapping to 3q22.1.

SOURCE

transferrin (E-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 573-582 near the C-terminus of transferrin of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-393595 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

transferrin (E-8) is recommended for detection of transferrin of human origin by Western Blotting (starting dilution 1:100, 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 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 shRNA Plasmid (h): sc-37176-SH and transferrin shRNA (h) Lentiviral Particles: sc-37176-V.

Molecular Weight of transferrin: 79 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, human liver extract: sc-363766 or human brain extract: sc-364375.

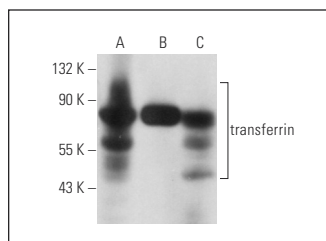
STORAGE

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

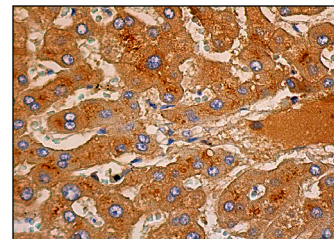
RESEARCH USE

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

DATA



transferrin (E-8): sc-393595. Western blot analysis of transferrin expression in human liver (A) and human brain (B) tissue extracts and Hep G2 whole cell lysate (C).



transferrin (E-8): sc-393595. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

SELECT PRODUCT CITATIONS

1. Meyer, E., et al. 2017. Mutations in the histone methyltransferase gene KMT2B cause complex early-onset dystonia. *Nat. Genet.* 49: 223-237.
2. Li, L., et al. 2018. Ferroptosis is associated with oxygen-glucose deprivation/reoxygenation-induced Sertoli cell death. *Int. J. Mol. Med.* 41: 3051-3062.
3. Dhaenens, L., et al. 2019. Endometrial stromal cell proteome mapping in repeated implantation failure and recurrent pregnancy loss cases and fertile women. *Reprod. Biomed. Online* 38: 442-454.
4. Wang, B., et al. 2019. Lack of Myosin X enhances osteoclastogenesis and increases cell surface Unc5b in osteoclast-lineage cells. *J. Bone Miner. Res.* 34: 939-954.
5. Das, A.A., et al. 2020. Proteomic analysis detects deregulated reverse cholesterol transport in human subjects with ST-segment elevation myocardial infarction. *J. Proteomics* 222: 103796.
6. Sabbir, M.G. 2020. CAMKK2-CAMK4 signaling regulates transferrin trafficking, turnover, and iron homeostasis. *Cell Commun. Signal.* 18: 80.

PROTOCOLS

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



See **transferrin (D-9): sc-365871** for transferrin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.