SANTA CRUZ BIOTECHNOLOGY, INC.

transferrin (D-9): sc-365871

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.

SOURCE

transferrin (D-9) is a mouse monoclonal antibody raised against amino acids 326-390 of transferrin of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

transferrin (D-9) is available conjugated to agarose (sc-365871 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365871 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365871 PE), fluorescein (sc-365871 FITC), Alexa Fluor® 488 (sc-365871 AF488), Alexa Fluor® 546 (sc-365871 AF546), Alexa Fluor® 594 (sc-365871 AF594) or Alexa Fluor® 647 (sc-365871 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365871 AF680) or Alexa Fluor® 790 (sc-365871 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

transferrin (D-9) 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.

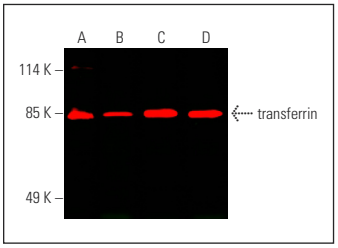
Molecular Weight of transferrin: 79 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, human kidney extract: sc-363764 or human heart extract: sc-363763.

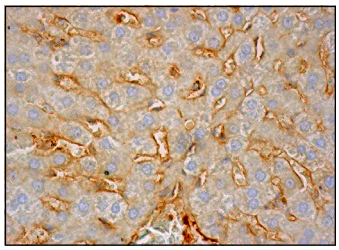
STORAGE

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

DATA



transferrin (D-9) Alexa Fluor® 790: sc-365871 AF790. Direct near-Infrared western blot analysis of transferrin expression in Hep G2 whole cell lysate (**A**) and human kidney (**B**), human heart (**C**) and human tonsil (**D**) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214.



transferrin (D-9): sc-365871. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing membrane staining of hepatocytes and cytoplasmic and membrane staining of hepatic sinusoids.

SELECT PRODUCT CITATIONS

1. Zhao, K.W., et al. 2015. Fibroblastic synoviocytes secrete plasma proteins via α_2-macroglobulins serving as intracellular and extracellular chaperones. J. Cell. Biochem. 116: 2563-2576.
2. Staubach, S., et al. 2016. Differential proteomics of urinary exovesicles from classical galactosemic patients reveals subclinical kidney insufficiency. J. Proteome Res. 15: 1754-1761.
3. Kim, E.K., et al. 2019. Proteomic analysis of primary colon cancer and synchronous solitary liver metastasis. Cancer Genomics Proteomics 16: 583-592.
4. Zhao, L., et al. 2020. Serum transferrin predicts end-stage renal disease in type 2 diabetes mellitus patients. Int. J. Med. Sci. 17: 2113-2124.
5. Sabbir, M.G., et al. 2020. Hypomorphic CAMKK2 in EA.hy926 endothelial cells causes abnormal transferrin trafficking, iron homeostasis and glucose metabolism. Biochim. Biophys. Acta Mol. Cell Res. 1867: 118763.
6. Rehorek, S.J., et al. 2020. Whale tear glands in the bowhead and the beluga whales: source and function. J. Morphol. 281: 316-325.
7. Masood, A., et al. 2021. Identification of protein changes in the urine of hypothyroid patients treated with thyroxine using proteomics approach. ACS Omega 6: 2367-2378.
8. Benabdelkamel, H., et al. 2021. Proteomics profiling of the urine of patients with hyperthyroidism after anti-thyroid treatment. Molecules 13: 675.
9. Alasmari, F., et al. 2021. Serum proteomic analysis of cannabis use disorder in male patients. Molecules 26: 5311.

RESEARCH USE

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