SANTA CRUZ BIOTECHNOLOGY, INC.

transferrin (F-8): sc-373785

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.

REFERENCES

1. MacGillivray, R.T., et al. 1983. The primary structure of human serum transferrin. The structures of seven cyanogen bromide fragments and the assembly of the complete structure. J. Biol. Chem. 258: 3543-3553.
2. Yang, F., et al. 1984. Human transferrin: cDNA characterization and chromosomal localization. Proc. Natl. Acad. Sci. USA 81: 2752-2756.

CHROMOSOMAL LOCATION

Genetic locus: Trf (mouse) mapping to 9 F1.

SOURCE

transferrin (F-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 420-453 within an internal region of transferrin of mouse origin.

PRODUCT

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

transferrin (F-8) is available conjugated to agarose (sc-373785 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-373785 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373785 PE), fluorescein (sc-373785 FITC), Alexa Fluor® 488 (sc-373785 AF488), Alexa Fluor® 546 (sc-373785 AF546), Alexa Fluor® 594 (sc-373785 AF594) or Alexa Fluor® 647 (sc-373785 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373785 AF680) or Alexa Fluor® 790 (sc-373785 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-373785 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

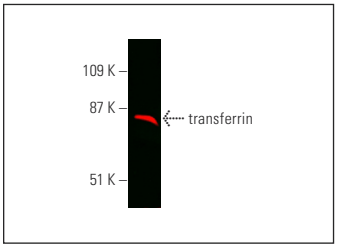
transferrin (F-8) is recommended for detection of transferrin of mouse origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

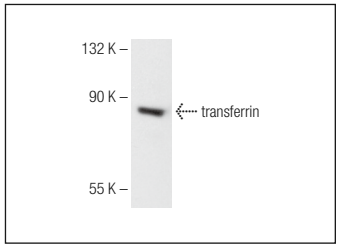
Molecular Weight of transferrin: 79 kDa.

Positive Controls: mouse liver extract: sc-2256 or c4 whole cell lysate: sc-364186.

DATA



transferrin (F-8): sc-373785. Near-infrared western blot analysis of transferrin expression in Hep G2 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



transferrin (F-8): sc-373785. Western blot analysis of transferrin expression in c4 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Zarjou, A., et al. 2013. Proximal tubule H-ferritin mediates iron trafficking in acute kidney injury. J. Clin. Invest. 123: 4423-4434.
2. Westphal, N., et al. 2017. Generation and intracellular trafficking of a polysialic acid-carrying fragment of the neural cell adhesion molecule NCAM to the cell nucleus. Sci. Rep. 7: 8622.
3. Abdel-Maksoud, F.M., et al. 2019. Prenatal exposures to bisphenol A and di (2-ethylhexyl) phthalate disrupted seminiferous tubular development in growing male rats. Reprod. Toxicol. 88: 85-90.
4. Udomsopagit, T., et al. 2020. Intestinal microbiota transplantation reveals the role of microbiota in dietary regulation of RegIIIβ and RegIIIγ expression in mouse intestine. Biochem. Biophys. Res. Commun. 529: 64-69.
5. Vallés, A.S., et al. 2021. The inhibition of microtubule dynamics instability alters lipid homeostasis in TM4 Sertoli cells. Toxicol. Appl. Pharmacol. 426: 115607.
6. Zong, Y., et al. 2023. Ginsenoside Rg1 improves inflammation and autophagy of the pancreas and spleen in streptozotocin-induced type 1 diabetic mice. Int. J. Endocrinol. 2023: 3595992.

RESEARCH USE

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