

# transferrin (M-20): sc-22599

## 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

- 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.
- Yang, F., et al. 1984. Human transferrin: cDNA characterization and chromosomal localization. *Proc. Natl. Acad. Sci. USA* 81: 2752-2756.
- Morgan, E.H., et al. 1986. Iron uptake and metabolism by hepatocytes. *Fed. Proc.* 45: 2810-2816.
- Irie, S., et al. 1987. Transferrin-mediated cellular iron uptake. *Am. J. Med. Sci.* 293: 103-111.
- Kohgo, Y., et al. 1991. Expression and extracellular release of transferrin receptors on erythropoiesis. *Rinsho Ketsueki* 32: 580-586.
- Zakin, M.M. 1992. Regulation of transferrin gene expression. *FASEB J.* 6: 3253-3258.

## CHROMOSOMAL LOCATION

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

## SOURCE

transferrin (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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-22599 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.

## APPLICATIONS

transferrin (M-20) is recommended for detection of transferrin of mouse 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), 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 (m): sc-37177, transferrin shRNA Plasmid (m): sc-37177-SH and transferrin shRNA (m) Lentiviral Particles: sc-37177-V.

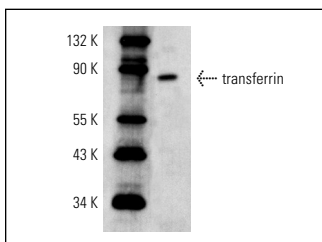
Molecular Weight of transferrin: 79 kDa.

Positive Controls: mouse liver extract: sc-2256.

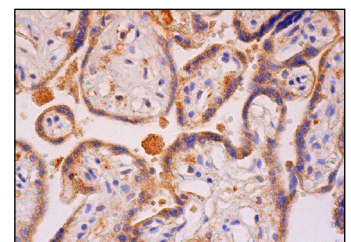
## RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



transferrin (M-20): sc-22599. Western blot analysis of transferrin expression in mouse liver tissue extract.



transferrin (M-20): sc-22599. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells.

## RESEARCH USE

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



Try **transferrin (F-8): sc-373785**, our highly recommended monoclonal alternative to transferrin (M-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **transferrin (F-8): sc-373785**.