

11-258-C025

Monoclonal Antibody to Transferrin Purified Antibody (0.025 mg)

Clone:	HTF-14
Isotype:	Mouse IgG1
Specificity:	The antibody HTF-14 recognizes an epitope located in the N-terminal domain of human serum transferrin, a 77 kDa single polypeptide chain glycoprotein (member of the iron binding family of proteins). It is synthesised in the liver and consists of two domains each having a high affinity reversible binding site for Fe ³⁺ .
Regulatory Status:	RUO
Immunogen:	Purified porcine transferrin.
Species Reactivity:	Human, Porcine, Rabbit
Negative Species:	Bovine, Sheep, Canine (Dog), Equine (Horse), Other not tested
Application:	Western Blotting Application note: non-reducing conditions Immunohistochemistry (paraffin sections) Recommended dilution: 10 µg/ml Positive tissue: placenta Immunocytochemistry ELISA RIA Functional Application The antibody HTF-14 blocks binding of transferrin to the receptor.
Purity:	> 95% (by SDS-PAGE)
Purification:	Purified from ascites by precipitation methods and ion exchange chromatography.
Concentration:	1 mg/ml
Storage Buffer:	Phosphate buffered saline (PBS) with 15 mM sodium azide, approx. pH 7.4
Storage / Stability:	Store at 2-8°C. Do not freeze. Do not use after expiration date stamped on vial label.
Expiration:	See vial label
Lot Number:	See vial label

For laboratory research only, not for drug, diagnostic or other use.

**Antibodies****Background:**

Transferrin is a monomeric glycoprotein of approximately 77 kDa, which serves as an iron-transporter. In normal plasma, transferrin has a concentration of 25-50 μmol / liter, and is usually about one-third saturated with iron, thus providing a large buffering capacity in case of an acute increase in plasma iron levels. Cells take up transferrin-iron complexes (holotransferrin) using transferrin receptor dimers. Upon binding of holotransferrin, the receptor is internalized by clathrin-mediated endocytosis. Acidification of endosomes by vesicular membrane proton pumps leads to dissociation of iron ions, whereas transferrin (apotransferrin) remains associated with its receptor (CD71) and recycles to the cell surface, where apotransferrin is released upon exposure to normal pH. Internalization of labeled transferrin thus represents an useful approach to study endocytosis. Serum concentration rises in iron deficiency and pregnancy and falls in iron overload, infection and inflammatory conditions. Iron/transferrin complex is essential in haemoglobin synthesis and for certain types of cell division.

References:

- *Hansen SH, Sandvig K, van Deurs B: Clathrin and HA2 adaptors: effects of potassium depletion, hypertonic medium, and cytosol acidification. *J Cell Biol.* 1993 Apr;121(1):61-72.
- *Ghosh RN, Gelman DL, Maxfield FR: Quantification of low density lipoprotein and transferrin endocytic sorting HEp2 cells using confocal microscopy. *J Cell Sci.* 1994 Aug;107 (Pt 8):2177-89.
- *Ghosh RN, Maxfield FR: Evidence for nonvectorial, retrograde transferrin trafficking in the early endosomes of HEp2 cells. *J Cell Biol.* 1995 Feb;128(4):549-61.
- *Rouault TA: How mammals acquire and distribute iron needed for oxygen-based metabolism. *PLoS Biol.* 2003 Dec;1(3):E79
- *Taketani S: Acquisition, mobilization and utilization of cellular iron and heme: endless findings and growing evidence of tight regulation. *Tohoku J Exp Med.* 2005 Apr;205(4):297-318.
- *Graham RM, Chua AC, Herbison CE, Olynyk JK, Trinder D: Liver iron transport. *World J Gastroenterol.* 2007 Sep 21;13(35):4725-36.
- *Bartek J, Viklicky V, Franek F, Angelisova P, Draber P, Jarosikova T, Nemec M, Verlova H: Monoclonal antibodies against transferrin. Precipitating mixtures and lack of inter-species cross-reactivity. *Immunol Lett.* 1982 May;4(5):231-5.
- *Bartek J, Viklicky V, Stratil A: Phylogenetically more conservative epitopes among monoclonal antibody-defined antigenic sites of human transferrin are involved in receptor binding. *Br J Haematol.* 1985 Mar;59(3):435-41.
- *Nováková M, Dráberová E, Schürmann W, Czihak G, Viklický V, Dráber P: gamma-Tubulin redistribution in taxol-treated mitotic cells probed by monoclonal antibodies. *Cell Motil Cytoskeleton.* 1996;33(1):38-51.

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