Transferrin, Human (Tf)

catalog number: T8199-10

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50ug	201.60	register for pricing	+ Add +

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Elemental iron is required for a variety of normal cellular functions and vital for proper growth and development. However, natural iron is quite insoluble and excess iron is harmful, since it can catalyze the formation of potentially damaging reactive oxygen species. The major pool of body iron (~85%; 40-50mg/kg) is found in circulating hemoglobin and muscle myoglobin. Iron absorption occurs primarily in the intestine (duodenum) and inversely related to body iron reserve. Several proteins including Ferritin, transferrin (Tf), transferrin receptors (TfRs), and iron regulatory proteins (IRPs) etc play a key role in iron metabolism.

Transferrin (Tf, human chromosome 3, 679 aa), a serum glycoprotein of ~80kD and synthesized in the liver, is the primary protein of inter-organ transport of nonheme iron. Tf can bind two iron atoms. Tf binds to membrane Transferrin receptors (TfRs) and taken up by endocytosis. Iron is released from Tf, within acidic endosomes, into the cytoplasm apparently through the action of DMT1. The apoTf-TfR complex is returned to the cell surface, where, apo-Tf dissociates from TfR at the extracellular pH. The classical TfR, now termed TfR1, is a homodimeric (95kD subunits) type II membrane glycoprotein that binds two molecules of Tf. Human TfR1 (human 760 aa; mouse 763 aa) has a cytoplasmic domain 1-67aa, 68-88 aa TM, and 89-760 aa as extracellular domains. A monomeric serum form or soluble TfR1 (~80kD) also exists that lacks residues 1-100 aa. Recently, a second Tf receptor, TfR2, has been cloned and characterized. TfR2 shares 45% identity with TfR1, and 27% with PMSA. Several variants of Tf have been identified with varying iron binding ability.

Applications:
Suitable for use in Western Blot and ELISA. Other applications not tested.

Recommended Dilution:

Western Blot:
Ready to use (10 ul/lane)
ELISA:
Coat ELISA plates at 1ug/ml
Optimal dilutions to be determined by the researcher.

Storage and Stability:
May be stored at 4C for short-term only. For long-term storage, store at -20C. Aliquots are stable for at least 24 months at -20C. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap. Further dilutions can be made in assay buffer.

Source:
Human serum
Purity:
~98%
Concentration:
1mg/ml
Form:
Supplied in 100 uL denaturing SDS-PAGE sample buffer.

Important Note:
This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications without the expressed written authorization of United States Biological.