

## Human Holo Transferrin

### Certificate of Analysis and Data Sheet

➤ <b>Source:</b> Human	➤ <b>Catalog No.</b> PRO-315
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#### ➤ **Background:**

Transferrin is the iron-transport protein of vertebrate serum and donates iron to cells through interaction with a specific membrane receptor, CD71. Transferrin appears to be indispensable for most cells growing in tissue culture. It is referred to frequently as a growth factor because, in analogy to other growth factor-receptor interactions, proliferating cells express high numbers of transferrin receptors, and the binding of transferrin to their receptors is needed for cells to initiate and maintain their DNA synthesis. Apart from its role as an iron transport protein transferrin acts as a cytokine and has functions that may not be related to its iron-carrying capacity. Transferrin has been identified also as one of the factors promoting the clonal growth of murine granulocyte and macrophage precursors cultured in vitro under serum-free conditions.

#### ➤ **Description :**

Iron saturated Human Holo Transferrin is a glycoprotein of approximately 77 kDa containing 679 amino acids.  
Transferrin is purified by proprietary chromatographic techniques.

#### ➤ **Physical Appearance:**

Sterile Filtered Lyophilized (freeze-dried) powder.

#### ➤ **Formulation:**

Transferrin (1mg/ml) was lyophilized with no additives.

#### ➤ **Solubility:**

It is recommended to reconstitute the lyophilized Transferrin in sterile 18MO-cm H<sub>2</sub>O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

#### ➤ **Stability:**

Lyophilized Transferrin although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution HTF should be stored at 4°C between 2-7 days and for future use below -18°C. Please prevent freeze-thaw cycles.

**Please avoid freeze-thaw cycles.**

#### ➤ **Purity:**

Greater than 97.0% as determined by:  
(a) Cellulose Acetate.

#### ➤ **Human virus test:**

FDA approved Plasma from each donor has been tested and found negative for antibody to HIV-1, HIV-2, HCV, HBSAG, HBc, ALT and Syphilis. Viral inactivation by pasteurization (60°C for 10 hours) has been validated using three different test viruses, with removal of 8-14.5 logs of virus documented. The purification process has also been found to remove significant additional quantities of virus.

#### ➤ **Usage:**

This material is offered for research, laboratory or further evaluation purposes.

#### ➤ **Latest Publications:**

1. Aluminum exposure affects transferrin-dependent and -independent iron uptake by K562 cells.  
Biochim Biophys Acta 2005 Aug 15;1745(1):124-30
2. Immunological study of complex formation between soluble transferrin receptor and transferrin.  
Am J Hematol 2005 Aug;79(4):281-7
3. Evaluation of transferrin-polyethylenimine conjugate for targeted gene delivery.  
Arch Pharm Res 2005 Jun;28(6):722-9
4. Comparison of HPLC and capillary electrophoresis for confirmatory testing of the alcohol misuse marker carbohydrate-deficient transferrin.  
Clin Chem 2005 Aug;51(8):1528-31
5. [Transferrin as a marker for diagnosis of diabetic nephropathies]  
Nippon Rinsho 2005 Jun;63 Suppl 6:358-61
6. Effect of ligand structure on the pathways for iron release from human serum transferrin.  
Inorg Chem 2005 Jul 11;44(14):5183-91