

# Human CellExp™ Transferrin, human recombinant

**CATALOG #:** 7467-20 20 µg  
7467-100 100 µg

**ALTERNATE NAMES:** Transferrin, TF, DKFZp781D0156, PRO1557, PRO2086.

**SOURCE:** HEK 293 cells (Val 20 – Pro 698)

**PURITY:** ≥ 95% by SDS-PAGE gel

**MOL. WEIGHT:** This protein is fused with a C-terminal 6-His tag, and has a calculated MW of 76 kDa. DTT-reduced protein migrates as 74 kDa in SDS-PAGE due to glycosylation.

**ENDOTOXIN LEVEL:** <1 EU/µg by LAL method

**FORM:** Lyophilized

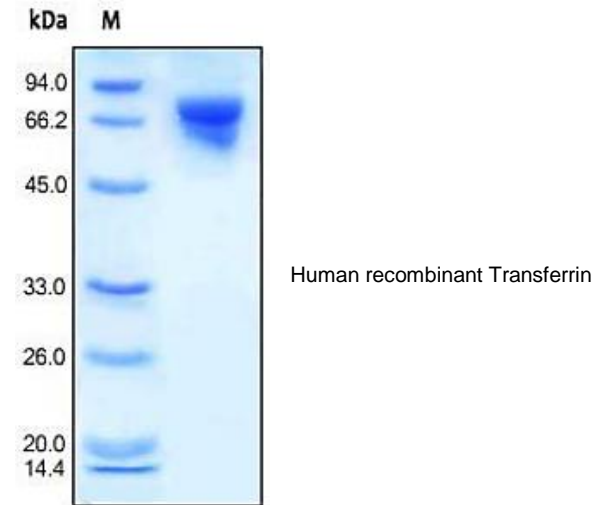
**FORMULATION:** Lyophilized from 0.22 µm filtered solution in 50 mM tris, 100 mM glycine, pH 7.0. Normally Mannitol or Trehalose is added as protectants before lyophilization.

**STORAGE CONDITIONS:** Store at -20°C. After reconstitution, aliquot and store at -20°C and use within 3 months. Avoid repeated freezing and thawing cycles.

**RECONSTITUTION:** Centrifuge the vial prior to opening. Reconstitute in sterile PBS, pH 7.4 to a concentration of 50 µg/ml. Do not vortex. This solution can be stored at 2-8°C for up to 1 month. For extended storage, it is recommended to store at -20°C.

**DESCRIPTION:** Transferrin, also known as Serotransferrin, Beta-1 metal-binding globulin, TF, and is iron-binding blood plasma glycoproteins that control the level of free iron in biological fluids. Although iron bound to transferrin is less than 0.1% (4 mg) of the total body iron, it is the most important iron pool, with the highest rate of turnover (25 mg/24 h). The affinity of transferrin for Fe (III) is extremely high ( $10^{23} \text{ M}^{-1}$  at pH 7.4) but decreases progressively with decreasing pH below neutrality. When not bound to iron, it is known as "apo-transferrin". In humans, transferrin consists of a polypeptide chain containing 679 amino acids. It is a complex composed of alpha helices and beta sheets to form two

domains (the first situated in the N-terminus and the second in the C-terminus). The N- and C- terminal sequences are represented by globular lobes and between the two lobes is an iron-binding site. The liver is the main source of manufacturing transferrin, but other sources such as the brain also produce this molecule. Transferrin is also associated with the innate immune system. Transferrin is found in the mucosa and binds iron, thus creating an environment low in free iron that impedes bacteria survival in a process called iron withholding. The level of transferrin decreases in inflammation. The metal binding properties of transferrin have a great influence on the biochemistry of plutonium in humans. Transferrin has a bactericidal effect on bacteria, in that it makes  $\text{Fe}^{3+}$  unavailable to the bacteria. Carbohydrate deficient transferrin increases in the blood with heavy ethanol consumption and can be monitored via laboratory testing.



**RELATED PRODUCTS:**

- Apotransferrin, Human Plasma (Cat # 4707-100)
- Lactoferrin, Human Milk (Cat # 7550-10)
- Lactoferrin, Human Neutrophil (Cat # 4092-100)

**FOR RESEARCH USE ONLY! Not to be used in humans.**

