

重组人 Transferrin(脱铁)说明书

产品名称

通用名称: 重组人铁转蛋白(脱铁)
英文名称: Recombinant Human Transferrin
货号: TL-759

产品信息

表达宿主: 人 HEK293 细胞
同义词: Transferrin, TF, DKFZp781D0156, PR01557, PR02086
蛋白序列: DNA 序列编码人 Transferrin (UniProtKB/Swiss-Prot: Q06AH7) 表达带有 FC 标签在 C 末端。
分子量: 重组人 Transferrin 包含 713 个氨基酸, 预测的理论分子量为 78.8kd。
纯度: ≥95%采用 SDS-PAGE 凝胶和高效液相色谱分析。
内毒素: ≤0.01EU/ug (凝胶法)
生物活性: 固定人转铁蛋白 (His 标签) 的浓度为 1ug/mL (100uL/孔) 能够结合人转铁蛋白受体 (Fc 标签) 的线性结合范围是 2-50 ng/mL。
提纯方法: 层析纯化, 酸性条件下脱铁离子
组成: 含有 6%甘露醇的无菌 PBS (pH 7.4) 的冻干粉。

储存条件

冻干制剂可在 4℃ 保存 24 个月, 溶解后的液体可置于 -20℃ 保存 6-12 个月, 避免反复冻融。

作用机理

Transferrin is iron-binding blood plasma glycoproteins that control the level of free iron in biological fluids. This glycoprotein is thought to have been created as a result of an ancient gene duplication event that led to generation of homologous C and N-terminal domains each of which binds one ion of ferric iron. The function of Transferrin is to transport iron from the intestine, reticuloendothelial system, and liver parenchymal cells to all proliferating cells in the body. 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. Transports iron ions from the hemolymph into the eggs during the vitellogenic stage. Transferrins are iron binding transport proteins which can bind two Fe(3+) ions in association with the binding of an anion, usually bicarbonate. It is responsible for the transport of iron from sites of absorption and heme degradation to those of storage and utilization. Serum transferrin may also have a further role in stimulating cell proliferation. The PH is reduced by hydrogen iron pumps. The lower pH causes transferrin to release its iron ions. The receptor is then transported through the endocytic cycle back to the cell surface, ready for another round of iron uptake. Each transferrin molecule has the ability to carry two iron ions in the ferric form.

参考文献

1. Ting Cecilia Kwan Sz et al. (2019) Maternal Iron Nutriture Modulates Placental Development in a Rat Model of Fetal Alcohol Spectrum Disorder. Alcohol 2019-11-14 DOI : 10.1002/sml.201802403
2. Ponka P, et al. (1998) Function and regulation of transferrin and ferritin. Semin Hematol. 35(1): 35-54.