

Transferrin - APO (Low Iron)

Product Code	T100-5
Source	Pooled normal human serum/plasma from US-sourced blood donations screened for infectious diseases from FDA-licensed donor collection sites. Donors have been through consent and health screening processes in line with national regulations.
Uses	Designed for use as a supplemental reagent in cell culture including tissue culture, stem cell culture and serum free media. Not for direct <i>in vivo</i> use.

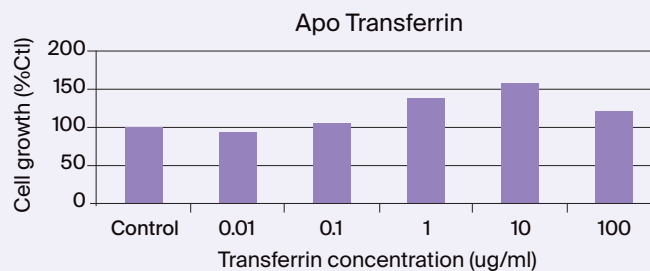
Protein Function	Human Transferrin is a major iron binding glycoprotein and serves as the transport protein for iron delivery in the body. Each molecule of transferrin specifically binds two Fe^{3+} molecules through a bicarbonate mediated site specific binding. The iron content can be adjusted to give near 100% saturation to yield holo-transferrin (T101-5) iron 1100–1600ppm or depleted to give near zero iron bound to yield apo-transferrin (T100-5) iron < 50ppm protein. Transferrin is a natural and essential component for cell growth in tissue culture where it is used as an additive for serum free media to propagate cell growth. In culture media, Transferrin has a secondary role to bind endogenous metal ions which may cause cell toxicity.	
Tissue Occurrence & Abundance	Plasma concentration of transferrin is 2–3.2g/l, this is reduced somewhat in pregnancy. Transferrin is a major constituent of plasma and found in all body organs. Transferrin is primarily synthesised in the liver and to a small extent in the brain.	
Function in Cell Culture	Transferrin is an iron transport and delivery protein which promotes cell growth, the Apo form allows controlled addition of iron salts. Apo Transferrin is stabilised by iron binding and readily absorbs iron into its empty binding sites. It can be used to reduce iron load in iron rich media and balance the media.	
Presentation	Single homogenous batch, heat treated at $62^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 10 hours and and lyophilised from approximately 0.02M NH_4HCO_3 solution. May contain traces of buffer salts.	
Structure	Molecular weight Amino acids Disulphide bonds pH value(s) Prosthetic group Glycosylation Oligomerisation Isoforms	~77kDa two lobes each with an iron binding domain 698 19 5.1–6.1 None Sialic acid None 5 Isoforms with different levels of glycosylation
References	- McGillivray R.T.A., Mendez E., Shewale J.G., Sinha S.K., Lineback-Zins J., Brew K. The primary structure of human serum transferrin. The structures of seven cyanogen bromide fragments and the assembly of the complete structure. J. Biol. Chem. 258:3543–3553 (1983) - Crichton RR, Charloteaux-Wauters M (1987). Iron transport and storage. Eur. J. Biochem. 164 (3): 485–506 - Aisen P, Leibman A, Zweier J (March 1978). Stoichiometric and site characteristics of the binding of iron to human transferrin. J. Biol. Chem. 253 (6): 1930–7	



Order your sample today

Biological Activity

EC₅₀ = 0.537-0.845 µg/ml
when externally tested
and verified in a Chinese
Hamster Ovary (CHO) cell
proliferation assay.



Nominal Purity

>98% determined by Coomassie blue stained SDS-PAGE and Helena SAS-MX SP-10 Electrophoresis Gel.

Iron content

<50ppm (Iron estimated by ICP).

Endotoxin

≤ 1 EU/mg by LAL assay.

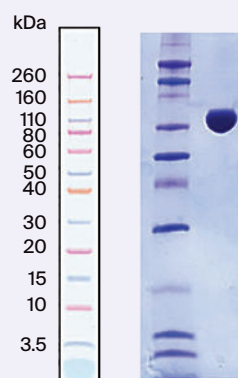
Mycotoxin

No Mycoplasma growth for 4 weeks by Cell Culture Test.

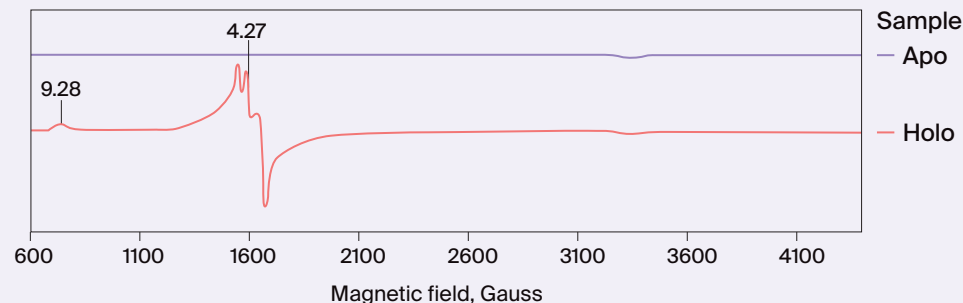
Stability & Formulation

Supplied lyophilised – Store at 2–8°C – Do not freeze.

Coomassie Stained SDS-PAGE



EPR Spectral Analysis



Ordering Details - Use the following codes when ordering

Product	Code	Description
Human Transferrin (Apo)	T100-5	> 98% Pure Iron <50ppm supplied lyophilised sourced from human serum/plasma available in 1g, 10g and 50g bottles packaged in PTEG bottles in moisture-controlled pouches.

Related Products	Code	Description
Human Transferrin (Holo)	T101-5	> 98% Pure Iron 1100 - 1600ppm supplied lyophilised sourced from human serum/plasma available in 1g, 10g and 50g bottles packaged in PTEG bottles in moisture-controlled pouches.



Order a sample today

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