

# Technical Data Sheet

## apo-Transferrin, human

for cell biology

Order number: 1540

Human Transferrin is a 77 kDa beta-glycoprotein with a range of phenotypes based upon the number of sialic acid residues. Transferrin is a major iron binding protein found in human plasma or serum at concentrations of 3 mg/ml. Transferrin glycoproteins bind iron tightly, but reversibly. Although iron bound to transferrin is less than 0.1% (4 mg) of total body iron, it forms the most vital iron pool with the highest rate of turnover (25 mg/24 h). Each molecule of Transferrin can specifically bind two  $\text{Fe}^{3+}$  molecules.

The iron content of Transferrin can be adjusted to give near 100% saturation (holo-Transferrin with an iron content of 1200-1600  $\mu\text{g/g}$ ) or depleted (apo-Transferrin with an iron content  $<50 \mu\text{g/g}$  protein, or sidero-Transferrin with an iron content of 300-1000  $\mu\text{g/g}$  protein).

Apo-Transferrin is isolated from human plasma. The starting material is tested to be negative for Hepatitis B surface antigen, Hepatitis C antibodies, HIV 1 & 2 antibodies, HIV /HBV / HCV / HAV NAT and Parvovirus B19. It is a heat treated at 62°C for 10 hours and lyophilized from approx. 0.02 M  $\text{NH}_4\text{HCO}_3$ .

Apo-Transferrin is substantially iron-free; it may contain traces of buffer salts.

## Application

Mammalian cells require an iron transporter such as human apo-Transferrin when cultivated in serum free medium. Since Transferrins are not limited to only binding to iron but also to different metal ions, another application for apo-Transferrin in cell culture media is to bind endogenous metal iron which may cause cell toxicity.

## Storage

Store lyophilized apo-Transferrin at 2 - 8°C or at -20°C. Stock solutions are stable at 2 - 8°C for approximately 2 weeks. For long-term storage, we recommend freezing in aliquots to avoid freeze-thaw cycles.

## Related products

- |      |                                                                                |
|------|--------------------------------------------------------------------------------|
| 1510 | Penicillin/Streptomycin solution in 0.85 % NaCl for cell biology               |
| 1229 | Sodium hydrogen carbonate for cell biology                                     |
| 1175 | D-PBS (10X) powder mixture w/o Ca and Mg for cell biology                      |
| 2095 | Fetal Calf Serum (FBS, origin South America) standard quality for cell biology |

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