

Product Specification Sheet

**Anti-bovine Transferrin (Tf) Antibodies**

<input type="checkbox"/> Cat. # TF19-A	<b>Goat</b> Anti-bovine Transferrin IgG	<b>SIZE:</b> 1 ml
<input type="checkbox"/> Cat. # TF19-C	Purified <b>bovine</b> Transferrin protein W. Blot +ve control	<b>SIZE:</b> 100 ul

Elemental iron is required for a variety of normal cellular functions and vital for proper growth and development. However, natural iron is quite insoluble and excess iron is harmful, since it can catalyze the formation of potentially damaging reactive oxygen species. The major pool of body iron (~85%; 40-50 mg/kg) is found in circulating hemoglobin and muscle myoglobin. Iron absorption occurs primarily in the intestine (duodenum) and inversely related to body iron reserve. Several proteins including **Ferritin, transferrin (Tf), transferrin receptors (TfRs), and iron regulatory proteins (IRPs)** etc play a key role in iron metabolism.

**Transferrin** (Tf, human chromosome 3, 679 aa), a serum glycoprotein of ~80 kDa and synthesized in the liver, is the primary protein of inter-organ transport of nonheme iron. Tf can bind two iron atoms. Tf binds to membrane **Transferrin receptors (TfRs)** and taken up by endocytosis. Iron is released from Tf, within acidic endosomes, into the cytoplasm apparently through the action of DMT1. The apoTf-TfR complex is returned to the cell surface, where, apo-Tf dissociates from TfR at the extracellular pH. The classical TfR, now termed **TfR1**, is a homodimeric (95 kDa subunits) type II membrane glycoprotein that binds two molecules of Tf. Human TfR1 (human 760 aa; mouse 763 aa) has a cytoplasmic domain 1-67aa, 68-88 aa TM, and 89-760 aa as extracellular domains. A monomeric serum form or **soluble TfR1** (~80 kDa) also exists that lacks residues 1-100 aa. Recently, a second Tf receptor, **TfR2**, has been cloned and characterized. TfR2 shares 45% identity with TfR1, and 27% with PMSA. Several variants of Tf have been identified with varying iron binding ability.

**Source of Antigen, Antibodies**

<b>Antigen</b>	Pure bovine transferrin
<b>Ab Host/type</b>	Goat, polyclonal IgG (cat # TF19-A), purified over affinity column supplied in pbs, azide 0.05%
<b>2-Ab</b>	Rabbit Anti-Goat IgG-HRP cat # 30220 (AP, biotin, FITC conjugates also available)
<b>-ve control</b>	# <b>20011-1, Goat (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control</b>

Highly purified bovine apo-Transferrin (~76-80 kda was used as positive control. For Western blot +ve control (**Cat # TF19-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **TF19-C** for good visibility with antibody Cat # **TF19-AS** or #TF14-A. Store at -20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **TF19-C** solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly

**Stability:** 6-12 months at -20oC or below.

**Shipping:** 4oC for solutions and room temp for powder.

**Recommended Usage**

**Western Blotting** (1:1000-1:5000 antibody using ECL technique).  
Tf is ~80 kDa.

**ELISA:** coat ELISA plates at 1 ug/ml and detected with antibodies (1:1K-10K for neat serum and 1-5 ug/ml for IgG).

**Histochemistry & Immunofluorescence:** Not tested.

**Specificity & Cross-reactivity**

Anti-bovine Tf antibodies reacts with bovine. It may react with other species Tf but they have not been tested. Purified bovine Tf (#TF19-C) can be used as positive controls.

**General References:** Bowman, B. H. et al (1988) Adv. Genet. 25: 1-38; Evans, R. W. et al (1982) Biochem. J. 201: 19-26; MacGillivray, R. T. A et al (1982) PNAS 79: 2504-2508; Park, I. et al (1985) PNAS 82, 3149; Uzan, G. et al (1984) BBRC 119, 273; Yang, F. et al (1984) PNAS 81, 2752-2756; Nelson N et al (1999) EMBO J. 18, 4361(review); Cairo G et al (2000) Biochem. J. 352, 241-250

\*This product is for In vitro research use only.

**Related material available from ADI**

Catalog#	ProdDescription
1210	Human Transferrin (Tf) ELISA Kit, 96 tests, Quantitative
1220	Human soluble Transferrin Receptor (sTfR) ELISA Kit, 96 tests,

400-195-DGT	Dog Transferrin ELISA Kit, 96 tests, Quantitative
6390	Mouse Transferrin (Tf) ELISA Kit, 96 tests, Quantitative
800-332-AGT	Bovine serum albumin (BSA), IgG and Transferrin

TF11-A	Anti-Human Transferrin IgG, aff pure
TF11-HRP	Anti-Human Transferrin IgG-HRP conjugate
TF11-S	Anti-Human Transferrin antiserum
TF12-S	Anti-Rat Transferrin (Tf) antiserum
TF13-M	Monoclonal Anti-Human Transferrin (Tf) IgG # 3
TF14-A	Anti-Mouse Transferrin IgG, aff pure
TF14-BTN	Anti-Mouse Transferrin IgG-Biotin conjugate
TF14-HRP	Anti-Mouse Transferrin IgG-HRP conjugate
TF14-N-1	Purified Mouse Apo-Transferrin Protein (>98% pure)
TF15-N	Purified Rat Transferrin Protein for ELISA
TF15-S	Anti-Rat Transferrin (Tf) antiserum
TF16-N	Transferrin, Human Plasma
TF17-N	Transferrin, Human Plasma, Low Endotoxin Level
TF18-A	Anti-Human Transferrin IgG/Y, unlabeled
TF19-A	Anti-Bovine Transferrin (serum) IgG

TF20-N-10	Bovine Transferrin, Apo (>98%)
TF21-N-10	Bovine Transferrin, holo (>98%)
TF25-N-10	Apotransferrin, Human Plasma
TF26-N-100	Apotransferrin, Human Plasma, Tissue Culture Grade
TF27-N-100	Recombinant (plant) Human Apotransferrin, Tissue Culture Grade (animal free, biologically active, >95% pure)

TF27-N-1000	Recombinant (plant) Human Apotransferrin, Tissue Culture Grade (animal free, biologically active, >95% pure)
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TFR11-M	Monoclonal Anti-Human soluble Transferrin receptor 1 (TfR1) IgG
TFR12-M	monoclonal Anti-Human Transferrin receptor 1 (TfR1) IgG # 2
TFR13-M	monoclonal Anti-Human Transferrin receptor 1 (TfR1) IgG # 3
TFR14-M	Biotinylated-Mouse monoclonal Anti-Human TfR1 IgG
TFR15-M	Fitc-labeled Mouse monoclonal Anti-Human TfR1 IgG
TFR16-M	Rat monoclonal Anti-Mouse Transferrin receptor 1 (TfR1) IgG
TFR16-R-10	Purified Human soluble TfR1 protein
TFR16-R-50	Purified Human soluble TfR1 protein
TFR17-M	Biotinylated-Rat monoclonal Anti-Mouse TfR1) IgG

TF19-A-Anti-bovine-Transferrin-IgG	150909A
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