

Product Specification Sheet

Human Ferritin Antibodies

Cat. # FERT11-S	Rabbit anti-human spleen ferritin antiserum	SIZE: 100 ul
Cat. # FERT11-C	Human Spleen ferritin protein WB +ve control	SIZE: 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. Therefore, cells have developed mechanisms to improve solubility of iron and to control intracellular iron levels. 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.

Ferritin is the major protein involved in iron sequestration and detoxification. Ferritin is found in all living species and its three dimensional structure is conserved in all species despite very low sequence identity from bacteria to human. Mammalian liver and spleen ferritin (~450 kDa) consists of 24 subunits of 2 species, **the heavy subunit (~21 kDa; FTH) and the light subunit (~ 19 kDa; FTL)**. The 2 types of apoferritin subunits were designated H and L for heart and liver, respectively. Ferritin molecules from plants and bacteria contain only H-type chains, where 'H-type' is associated with the presence of centers catalyzing the oxidation of two Fe(II) atoms.

Source of Antigen and Antibodies

Antigen	Purified human spleen ferritin
Ab Host/type	Rabbit, Polyclonal antiserum # FERT11-S
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Western blot positive protein control (**Cat #FERT11-C**) is prepared from purified human spleen Ferritin and supplied in SDS-PAGE reducing sample buffer. Load 10 ul/lane and visualize with appropriate antibodies (Cat # FERT11-S). The proteins in the controls are inactive and not suitable for ELISA or other techniques where native proteins is required. The controls should not be used standard. Heat the control once prior to loading and do not freeze and thaw. Store at -20oC or below in suitable aliquots.

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Storage

Short-term: unopened, undiluted liquid vials at -200C and powder at 4oC or -20oC..

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

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

Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K antibody using ECL technique).

ELISA: Control protein can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum).

Histochemistry & Immunofluorescence: Not tested.

Specificity & Cross-reactivity

Ferritins are quite conserved among various. The antibody may crossreact with ferritin from mouse, rat and other species. Ferritin from spleen is enriched in "L subunit". However, the antibody specificity with "H subunit has not been studied. ADI offers FTH and FTL subunit specific antibodies and purified proteins for control studies.

General References:

Harrison PM et al (1996) BBA 1275, 161-203; Picard V et al (1998) JBC 273, 15382-15386; Rucker P-F et al (1996) JBC 271, 33352-33357; Nelson N et al (1999) EMBO J. 18, 4361-4371 (review); Cairo G and Pietrangelo A et al (2000) Biochem. J. 352, 241-250

2. Citations of for ADI Antibodies (see updates at the web site)

Leong W-I, 2003, Am J Physiol Gastrointest Liver Physiol, 285: 1153 - 1161., WB
Leong W-I, 2005, Am. J. Clinical Nutrition, 81: 445 - 453, WB
Leong W-I, 2003, Am. J. Clinical Nutrition, 78: 1203 - 1211, WB

*This product is for In vitro research use only.

Related material available from ADI

Antibodies NRAMP1/2, MTP1, Transferrin, and receptor, Ferritin, H and L-chain, Hemeoxygenases 1-3, HFE, Dcytb, IRP1 and IRP2, Frataxin

Human Ferritin ELISA Kit

FERT11-S-C

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