

Product Specification Sheet

**Human Ferritin (Heart) Protein and Antibodies**

Cat. # FERT16-S	<b>Rabbit Anti-Human Ferritin (Heart) antiserum # 4</b>	<b>SIZE:</b> 100 ul
Cat. # FERT16-C	Purified Human heart Ferritin 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. 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. **FTL subunit** (rich in human liver and spleen) is coded by a gene in segment 19q13.3 and **FTH subunit** (rich in human heart) is located on chromosome 11. Ferritin is capable of storing up to 4,500 atoms of ferric iron. The H-to-L ratio within ferritin varies in a tissue-specific manner and is also influenced by pathophysiological conditions, including inflammation and malignancy. H-chains are important for Fe(II) oxidation and L-chains assist in core formation.

**Source of Antigen and Antibodies**

Purified **human heart ferritin** was used as immunogen to produce antibodies (**Cat #FERT16-S**) in **Rabbit**.

<b>Antigen</b>	Purified <b>human heart ferritin</b>
<b>Ab Host/type</b>	Rabbit, Polyclonal antiserum # <b>FERT16-S</b>
<b>2-Ab</b>	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
<b>-ve control IgG</b>	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Human heart ferritin protein (**Cat # FERT16-R-50**) was purified (>95%) from human tissues. For W. Blot +ve control (cat #**FERT16-C**). It is supplied in denaturing SDS-PAGE sample buffer ready to load on gels. Store at -20oC. Heat at 95oC for 2-3 min prior to loading on gels (10 ul/lane). 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 FERT16-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. This preparation is intended for qualitative purpose and not to serve as standard of known concentration. Do not freeze, thaw, or heat repeatedly

**Form & Storage**

Antiserum is supplied as unpurified, undiluted containing 0.05% sodium azide as preservative. **Lyophilized products** should be reconstituted in 100 ul PBS and gently mixed for 15 min at room temp. All products received in solution or lyophilized vials should be stored frozen at -20°C or below in suitable aliquots. Do not store diluted solutions of antibodies and avoid repeated freeze and thaw.

**Recommended Usage**

**Western Blotting** (1:500-1:2000 antibody using ECL technique). Bands of 19-21 kda are found under reduced and denaturing conditions.

**ELISA:** Control protein can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:1K-1:5K).

**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 heart is enriched in "H subunit". Antibody crossreactivity with "L subunit has not been studied. ADI offers FTH and FTL subunit specific antibodies and purified proteins for control studies.

**General References:** Boyd D et al (1985) JBC 260, 11755; Costanzo F (1984) EMBO J, 3, 23; Chou, C.C. et al (1986) Mol. Cell. Biol. 566, Hentze MW (1986) PNAS 83, 722; Harrision PM (1996) BBA 1275, 161, Picard V et al (1998) JBC 273, 15382; Rucker P-F et al (1996) JBC 271, 33352; Nelson N (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**

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

**Human Serum Ferritin ELISA Kit**

**Recycle your blot in Just 5-10 min at room temp.** (use the same strip for various NRAMPS)

FERT16-S-C 71216A