



## Product Specification Sheet

### Human Spleen Ferritin

Cat. # FERT14-R-100

Purified Human spleen Protein

**SIZE:** 100 ug

Elemental iron is required for a variety of normal cellular functions and vital for proper growth and development. **Ferritin** is the major protein involved in iron sequestration and detoxification. Ferritin is found in all living species. 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. Hyperferritinemia-cataract syndrome has a mutation in the iron response element (IRE) in the 5-prime noncoding region of the FTL gene. Synthesis of both ferritin subunits is controlled by a common cytosolic protein, **iron regulatory proteins (IRPs)**, which binds to the iron-responsive element (IRE) in the 5'-UTR of the H- and L-ferritin mRNAs. H-chains are important for Fe(II) oxidation and L-chains assist in core formation.

#### Source of Antigen

Ferritin was purified (>95%) from human spleen tissues. All human source materials have tested negative for HIV1, HIV2, HCV antibodies and HIV-1 Ag, HBsAg and Syphilis. No test guarantees a product to be non-infectious. Therefore, all material derived from human fluids or tissues should be considered as potentially infectious

Spleen Ferritin is supplied in 0.05M phosphate buffer containing 0.15M NaCl and 0.05% azide in liquid at 1 mg/ml (see vials for lot sp. Conc'n) or in powder form. Reconstitute the powder in 100 ul water to prepare 100 ug/ml solution. Store at -20°C in suitable size aliquots. Do not freeze and thaw.

#### **General References:**

Santoro C et al (1986) Nucl. Acid Res. 14, 2863; Dorner MH et al (1985) PNAS 82, 3139; Boyd D et al (1985) JBC 260, 11755; Chou, C.C. et al (1986) Mol. Cell. Biol. 566, Addison JM et al (1983) FEBS Lett. 164, 139; 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.

FERT14-R-100 71216A