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Product Specification Sheet

Horse spleen Ferritin

Cat. # FERT13-C Hosrse 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

Western blot positive protein control (**Cat #FERT13-C**) is prepared from purified horse 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.

Specificity & Cross-reactivity

Ferritins are quite conserved among various. The antibody (FERT11-S) 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:

Harrsion 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

FERT13-C 71216A

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, S an Antonio, T X 7 8 24 4 , U S A;

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400 Fax: +91-11-42208444 Email: customerservice@lifetechindia.com Website: www.lifetechindia.com