SANTA CRUZ BIOTECHNOLOGY, INC.

ferritin (F23): sc-51887

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Mammalian ferritins consist of 24 subunits made up of two types of polypeptide chains, ferritin heavy chain and ferritin light chain, which each have unique functions. Ferritin heavy chains catalyze the first step in iron storage, the oxidation of Fe (II), whereas ferritin light chains promote the nucleation of ferrihydrite, enabling storage of Fe (III). The most prominent role of mammalian ferritins is to provide iron-buffering capacity to cells. In addition to iron buffering, heavy chain ferritin is also involved in the regulation of thymidine biosynthesis via increased expression of cytoplasmic serine hydroxymethyltransferase, which is a limiting factor in thymidylate synthesis in MCF-7 cells. Light chain ferritin is involved in cataracts by at least two mechanisms, hereditary hyperferritinemia cataract syndrome, in which light chain ferritin is overexpressed, and oxidative stress, an important factor in the development of ageing-related cataracts. The gene encoding human ferritin heavy chain maps to chromosome 11q13 and the human ferritin light chain gene maps to chromosome 19q13.3-q13.4.

REFERENCES

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3. Cheng, Q., Gonzalez, P. and Zigler, J.S., Jr. 2000. High level of ferritin light chain mRNA in lens. Biochem. Biophys. Res. Commun. 270: 349-355.
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CHROMOSOMAL LOCATION

Genetic locus: FTL (human) mapping to 19q13.33, FTH1 (human) mapping to 11q12.3.

SOURCE

ferritin (F23) is a mouse monoclonal antibody raised against purified ferritin of human origin.

PRODUCT

Each vial contains 100 µg IgG_3 in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

ferritin (F23) is recommended for detection of ferritin of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.