**BACKGROUND**

Mammalian ferritins consist of 24 subunits made up of 2 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 aging-related cataracts.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: FTH1 (human) mapping to 11q12.3.

**SOURCE**

Ferritin heavy chain (3F8) is a mouse monoclonal antibody raised against recombinant ferritin heavy chain protein of human origin.

**PRODUCT**

Each vial contains IgG\(_{2a}\) in 100 µl of PBS with < 0.1% sodium azide, 0.1% gelatin, 1% glycerol and < 0.1% stabilizer protein.

**APPLICATIONS**

Ferritin heavy chain (3F8) is recommended for detection of ferritin heavy chain of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:30-1:5000).

Suitable for use as control antibody for ferritin heavy chain siRNA (h): sc-40575, ferritin heavy chain shRNA Plasmid (h): sc-40575-SH and ferritin heavy chain shRNA (h) Lentiviral Particles: sc-40575-V.

Molecular Weight of ferritin heavy chain: 21 kDa.

Positive Controls: U-87 MG cell lysate: sc-2411, Daudi cell lysate: sc-2415 or HeLa whole cell lysate: sc-2200.

**STORAGE**

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

**DATA**

![Western blot analysis of ferritin heavy chain expression in U-87 MG (A) and HeLa (B) whole cell lysates.](image)

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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

**PROTOCOLS**

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

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**See ferritin heavy chain (B-12): sc-376594 for ferritin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.**