

# ferritin light chain (C-20): sc-14422

## 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 19q13.33.

## CHROMOSOMAL LOCATION

Genetic locus: FTL (human) mapping to 19q13.33; FtL2 (mouse) mapping to 4 D2.2.

## SOURCE

ferritin light chain (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ferritin light chain of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-14422 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ferritin light chain (C-20) is recommended for detection of ferritin light chain of mouse, rat and 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ferritin light chain (C-20) is also recommended for detection of ferritin light chain in additional species, including equine, canine and porcine.

Suitable for use as control antibody for ferritin light chain siRNA (h): sc-40577, ferritin light chain siRNA (m): sc-40578, ferritin light chain shRNA Plasmid (h): sc-40577-SH, ferritin light chain shRNA Plasmid (m): sc-40578-SH, ferritin light chain shRNA (h) Lentiviral Particles: sc-40577-V and ferritin light chain shRNA (m) Lentiviral Particles: sc-40578-V.

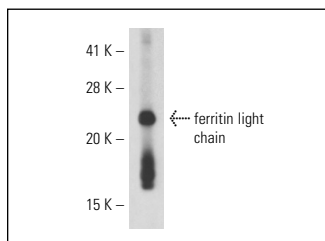
Molecular Weight of ferritin light chain: 19-25 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



ferritin light chain (C-20): sc-14422. Western blot analysis of purified human liver ferritin.

## SELECT PRODUCT CITATIONS

1. Beckers, J., et al. 2005. Identification and validation of novel ERBB2 (HER2, NEU) targets including genes involved in angiogenesis. *Int. J. Cancer* 114: 590-597.
2. Butt, O.I., et al. 2010. Differential induction of renal heme oxygenase and ferritin in ascorbate and nonascorbate producing species transfused with modified cell-free hemoglobin. *Antioxid. Redox Signal.* 12: 199-208.
3. Lin, Y., et al. 2010. Intralysosomal iron induces lysosomal membrane permeabilization and cathepsin D-mediated cell death in trabecular meshwork cells exposed to oxidative stress. *Invest. Ophthalmol. Vis. Sci.* 51: 6483-6495.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.