

ferritin light chain (D-18): sc-14420

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; Ft1 (mouse) mapping to 7 B4.

SOURCE

ferritin light chain (D-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus 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-14420 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ferritin light chain (D-18) 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 (D-18) is also recommended for detection of ferritin light chain in additional species, including equine, canine, bovine 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.

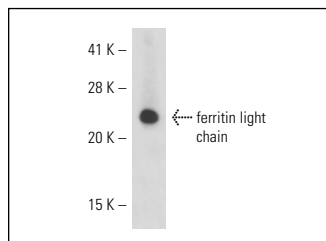
Molecular Weight of ferritin light chain: 19-25 kDa.

Positive Controls: ferritin light chain (h2): 293T Lysate: sc-170823, HL-60 whole cell lysate: sc-2209 or human ferritin liver tissue extract.

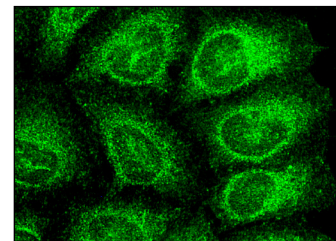
STORAGE

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

DATA



ferritin light chain (D-18): sc-14420. Western blot analysis of purified human liver ferritin.



ferritin light chain (D-18): sc-14420. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Salnikow, K., et al. 2004. Effect of nickel and iron co-exposure on human lung cells. *Toxicol. Appl. Pharmacol.* 196: 258-265.
- Magens, B., et al. 2005. Nuclear iron deposits in hepatocytes of iron-loaded HFE-knock-out mice: a morphometric and immunocytochemical analysis. *Acta Histochem.* 107: 57-65.
- Galy, B., et al. 2005. Altered body iron distribution and microcytosis in mice deficient in iron regulatory protein 2 (IRP-2). *Blood* 106: 2580-2589.
- Galy, B., et al. 2005. Generation of conditional alleles of the murine Iron regulatory protein (IRP)-1 and -2 genes. *Genesis* 43: 181-188.
- Saunders, G.C., et al. 2007. Identification of a proteinase K resistant protein for use as an internal positive control marker in PrP Western blotting. *Res. Vet. Sci.* 83: 157-164.
- Regan, R.F., et al. 2008. Neurons lacking iron regulatory protein-2 are highly resistant to the toxicity of hemoglobin. *Neurobiol. Dis.* 31: 242-249.
- Fan, Y., et al. 2009. Ferritin expression in rat hepatocytes and Kupffer cells after lead nitrate treatment. *Toxicol. Pathol.* 37: 209-217.
- Barbeito, A.G., et al. 2010. Abnormal iron metabolism in fibroblasts from a patient with the neurodegenerative disease hereditary ferritinopathy. *Mol. Neurodegener.* 5: 50.

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.