Mammalian ferritins consist of 24 subunits made up of 2 types of polypeptide chains, ferritin heavy chain and ferritin light chain, each which have unique functions. Ferritin heavy chains catalyze the first step in iron storage, the oxidation of Fe, whereas ferritin light chains promote the nucleation of ferricydrate, enabling storage of Fe. 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 catarsacts 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.

Genetic locus: FTH1 (human) mapping to 11q12.3; Fth1 (mouse) mapping to 19 A.

ferritin heavy chain (B-12) is a mouse monoclonal antibody raised against amino acids 131-183 of ferritin heavy chain of human origin.

Each vial contains 200 μg IgG2a kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ferritin heavy chain (B-12) is available conjugated to agaroase (sc-376594 AC), 500 μg/0.25 ml agaroase in 1 ml, for IP; to HRP (sc-376594 HRP), 200 μg/ml, for WB, (HCO) and ELISA; to either phycoerythrin (sc-376594 PE), fluorescein (sc-376594 FITC), Alexa Fluor® 488 (sc-376594 AF488), Alexa Fluor® 546 (sc-376594 AF546), Alexa Fluor® 594 (sc-376594 AF594) or Alexa Fluor® 647 (sc-376594 AF647), 200 μg/ml, for WB (RGB), IF, IHCIP and FCM; and to either Alexa Fluor® 680 (sc-376594 AF680) or Alexa Fluor® 790 (sc-376594 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

ferritin heavy chain (B-12) is recommended for detection of ferritin heavy chain of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μg per 100-500 μg of total protein (1 ml of cell lysates)], 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).

Suitable for use as control antibody for ferritin heavy chain siRNA (h): sc-40575, ferritin heavy chain siRNA (m): sc-40576, ferritin heavy chain shRNA Plasmid (h): sc-40575-SH, ferritin heavy chain shRNA Plasmid (m): sc-40576-SH, ferritin heavy chain shRNA (h) Lentiviral Particles: sc-40575-V and ferritin heavy chain shRNA (m) Lentiviral Particles: sc-40576-V.

Positive Controls: Jurkat whole cell lysate: sc-2204, MCF7 whole cell lysate: sc-2206 or A549 cell lysate: sc-2413.

**BACKGROUND**

**SOURCE**

ferritin heavy chain (B-12) is a mouse monoclonal antibody raised against amino acids 131-183 of ferritin heavy chain of human origin.

**PRODUCT**

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**APPLICATIONS**

ferritin heavy chain (B-12) is recommended for detection of ferritin heavy chain of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μg per 100-500 μg of total protein (1 ml of cell lysates)], 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).

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**CHROMOSOMAL LOCATION**

Genetic locus: FTH1 (human) mapping to 11q12.3; Fth1 (mouse) mapping to 19 A.

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

**STORAGE**

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

**DATA**

1. ferritin heavy chain (B-12): sc-376594 Near-infrared western blot analysis of ferritin heavy chain expression in U-87 MG (A), A549 (B) and MCF7 (C) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG BP-CFL 680; sc-516180.

2. ferritin heavy chain (B-12): sc-376594 Near-infrared western blot analysis of ferritin heavy chain expression in U-87 MG (A), Jurkat (B) and MCF7 (C) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG BP-CFL 790: sc-516181.