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Datasheet for 200-401-090

Ferritin Antibody

Overview

Description:	Anti-Ferritin (Human Spleen) (RABBIT) Antibody (BULK ORDER) - 200-401-090
Item No.:	200-401-090
Size:	50 mg
Applications:	ELISA, WB, FC, IF, LFA, Multiplex
Reactivity:	Human
Host Species:	Rabbit

Product Details

Background:	Ferritin stores iron in a soluble, non-toxic, readily available form. It is important for iron homeostasis. Iron is taken up in the ferrous form and deposited as ferric hydroxides after oxidation. Ferritin also plays a role in delivery of iron to cells and mediates iron uptake in capsule cells of the developing kidney.
Synonyms:	rabbit anti-Ferritin Antibody, FTHL6, Ferritin H subunit, Ferritin heavy chain like, Ferritin heavy polypeptide 1, Ferritin L subunit, Ferritin light chain like, Ferritin light polypeptide, Ferritin, heavy polypeptide, FTH
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	FTH1
Reactivity:	Human
Immunogen Type:	Native Protein
Immunogen:	Ferritin [Human Spleen]

Purity/Specificity:	Anti-Ferritin is an IgG fraction antibody purified from monospecific antiserum by a multi-step process which includes delipidation, salt fractionation and ion exchange chromatography followed by extensive dialysis against the buffer stated above. Assay by immunoelectrophoresis resulted in a single precipitin arc against anti-Rabbit Serum as well as purified and partially purified Ferritin [Human Spleen]. Cross reactivity against Ferritin from other tissues and species may occur but have not been specifically determined.
Relevant Links:	• NCBI - AAH66341.1 • UniProtKB - P02794 • GeneID - 2495

Application Details

Tested Applications:	ELISA, WB
Suggested Applications:	FC, IF, LFA, Multiplex (Based on references)
Application Note:	Anti-Ferritin has been tested in ELISA and western blot and is suitable for use in immunohistochemistry. Specific conditions for reactivity should be optimized by the end user.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:5,000 - 1:20,000
IHC:	1:200 - 1:1,000
WB:	1:5,000 - 1:2,000

Formulation

Physical State:	Lyophilized
Concentration:	10.0 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None
Reconstitution Volume:	5.0 mL
Reconstitution Buffer:	Restore with deionized water (or equivalent)

Shipping & Handling

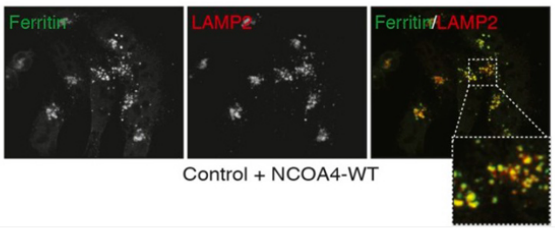
Shipping Condition:	Ambient

Storage Condition:	Store vial at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

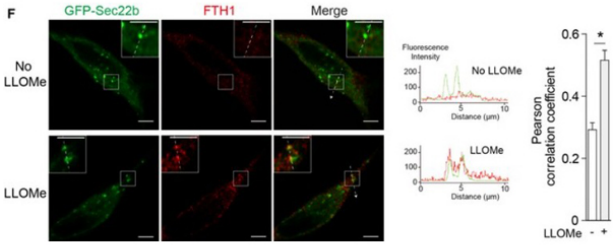
Images

Immunofluorescence Microscopy
NCOA4 recognizes FTH1 via a conserved C-terminal domain. (I) NCOA4I489A/W497A attenuates FTH1 localization in lysosomes following iron chelation. HCT116 control or NCOA4 knockout cells were plated on glass coverslips and treated with FAC for 14 hr. To promote ferritin accumulation in lysosomes, cells were then washed and treated with DFO plus lysosomal protease inhibitors E64-d and Pepstatin A for 6 hr. Cells were fixed, stained with ferritin antibody (p/n 200 -401-090) and visualized by confocal microscopy. Scale bar, 20 µm. Figure 1. PMID: 26436293

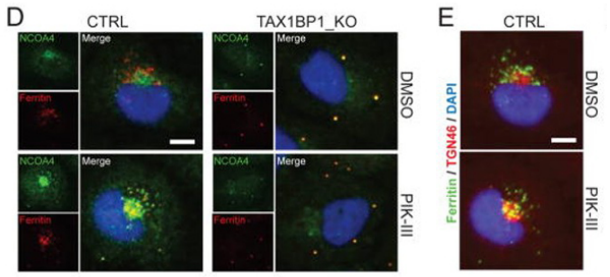
C



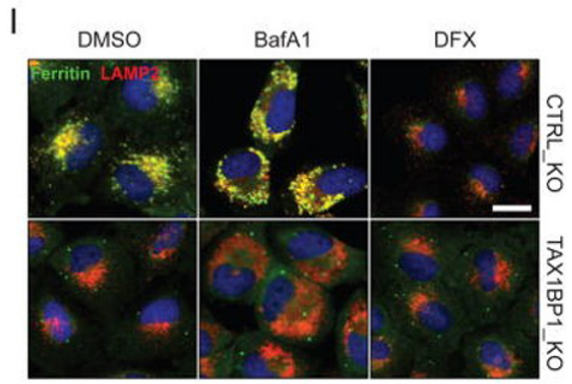
Immunofluorescence Microscopy
NCOA4 interacts with ferritin via a C-terminal domain and promotes lysosomal ferritin accumulation upon iron depletion.
(C) FTH1 accumulates in lysosomes following iron chelation in NCOA4WT cells. HCT116 CRISPR control cells were plated on glass coverslips and treated with FAC for 14 hr; cells were then washed, treated with DFO plus lysosomal protease inhibitors E64-d and Pepstatin A for 6 hr, fixed and stained with FTH1 and LAMP2 specific antibodies. FTH1/LAMP2 localization was visualized by confocal microscopy.
SFig 1. PMID: 26436293



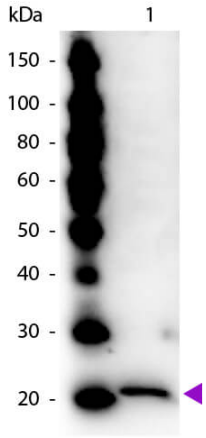
Immunofluorescence Microscopy
Secretory autophagy plays a role in unconventional secretion of ferritin.
(F) Confocal microscopy of HeLa cells expressing GFP-Sec22b were treated with LLOMe, and stained for FTH1. Line tracings correspond to arrows. Scale bars, 5 µm.
Figure 6.
PMID: 27932448



Immunofluorescence Microscopy
(D) Immunofluorescence analysis of NCOA4 and ferritin (p/n 200-401-090) in H4 wild-type or clonal TAX1BP1 knockout cells. Cells were treated with 5 uM PIK-III for 18 hours. Representative images of 500 cells shown/condition. Scale bar = 10 um. (E) Immunolocalization of ferritin with the trans-golgi marker TGN46 in the presence or absence of 5 uM PIK-III. Representative images of 500 cells shown. Scale bar = 10 um.



Immunofluorescence Microscopy
(I) Immunofluorescence analysis of ferritin (p/n 200-401-090) and LAMP2 to monitor lysosomal flux in wild-type or TAX1BP1 knockout cells. Representative images of 500 images shown. Scale bar = 50 um.



Western Blot
Western Blot of Rabbit Anti-Ferritin antibody. Lane 1: Ferritin. Load: 50 ng per lane. Primary antibody: Ferritin primary antibody at 1:1,000 overnight at 4°C. Secondary antibody: Peroxidase rabbit secondary antibody at 1:40,000 for 30 min at RT. Blocking: MB-070 for 30 min at RT. Predicted/Observed size: 20 kDa, 20 kDa for Ferritin. Other band(s): None.

References

- Yu, F et al. Dynamic O-GlcNAcylation coordinates ferritinophagy and mitophagy to activate ferroptosis. *Cell Discovery* (2022)
- Guo J et al. A combined model of human iPSC-derived liver organoids and hepatocytes reveals ferroptosis in DGUOK mutant mtDNA depletion syndrome. *Adv Sci (Weinh).* (2021)
- Ohta K et al. Human Parainfluenza Virus Type 2 V Protein Modulates Iron Homeostasis. *J Virol.* (2021)
- Yap BK et al. Potential point-of-care microfluidic devices to diagnose iron deficiency anemia. *Sensors (Basel).* (2018)
- Kimura et al. Dedicated SNAREs and specialized TRIM cargo receptors mediate secretory autophagy. *The EMBO Journal* (2017)
- Goodwin et al. Autophagy-Independent Lysosomal Targeting Regulated by ULK1/2-FIP200 and ATG9. *Cell Reports* (2017)
- Mai et al. Salinomycin kills cancer stem cells by sequestering iron in lysosomes. *Nature Chemistry* (2017)
- Mancias et al. Ferritinophagy via NCOA4 is required for erythropoiesis and is regulated by iron dependent HERC2-mediated proteolysis. *Elife* (2015)
- Mancias JD et al. Quantitative proteomics identifies NCOA4 as the cargo receptor mediating ferritinophagy. *Nature.* (2014)
- Dowdle WE et al. Selective VPS34 inhibitor blocks autophagy and uncovers a role for NCOA4 in ferritin degradation and iron homeostasis in vivo. *Nat Cell Biol.* (2014)

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