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Aconitase 1 (ACO1) Rabbit mAb

Catalog No.: A4821 Recombinant

Basic Information

Observed MW
98kDa

Calculated MW
98kDa

Category
Primary antibody

Applications
WB,IF/ICC,ELISA

Cross-Reactivity
Human, Mouse, Rat

CloneNo number
ARC2731

Background

The protein encoded by this gene is a bifunctional, cytosolic protein that functions as an essential enzyme in the TCA cycle and interacts with mRNA to control the levels of iron inside cells. When cellular iron levels are high, this protein binds to a 4Fe-4S cluster and functions as an aconitase. Aconitases are iron-sulfur proteins that function to catalyze the conversion of citrate to isocitrate. When cellular iron levels are low, the protein binds to iron-responsive elements (IREs), which are stem-loop structures found in the 5' UTR of ferritin mRNA, and in the 3' UTR of transferrin receptor mRNA. When the protein binds to IRE, it results in repression of translation of ferritin mRNA, and inhibition of degradation of the otherwise rapidly degraded transferrin receptor mRNA. The encoded protein has been identified as a moonlighting protein based on its ability to perform mechanistically distinct functions. Alternative splicing results in multiple transcript variants

Recommended Dilutions

WB	1:1000 - 1:4000
IF/ICC	1:200 - 1:800
ELISA	Recommended starting concentration is 1 μg/mL. Please optimize the concentration based on your specific assay requirements.

Immunogen Information

Gene ID
48

Swiss Prot
P21399

Immunogen
A synthetic peptide corresponding to a sequence within amino acids 1-100 of human Aconitase 1 (ACO1) (P21399).

Synonyms
IRP1; ACONS; HEL60; IREB1; IREBP; IREBP1; Aconitase 1 (ACO1)

Contact

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Product Information

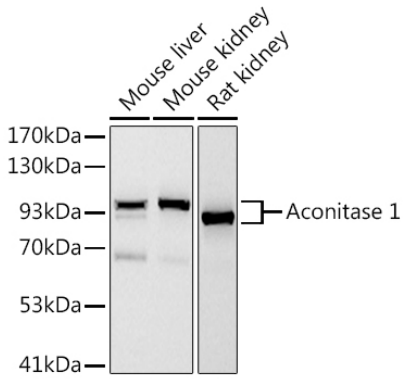
Source
Rabbit

Isotype
IgG

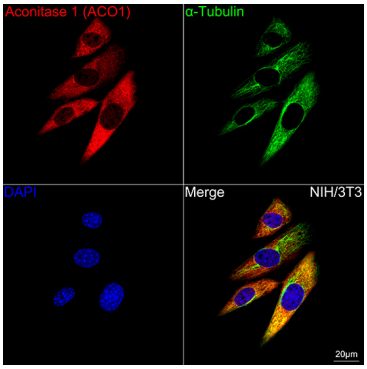
Purification
Affinity purification

Storage
Store at -20℃. Avoid freeze / thaw cycles.
Buffer: PBS with 0.02% sodium azide,0.05% BSA,50% glycerol,pH7.3.

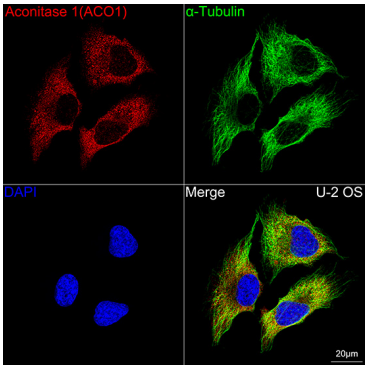
Validation Data



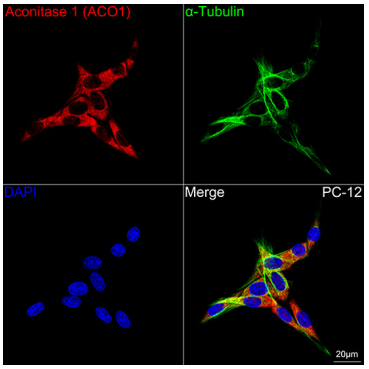
Western blot analysis of various lysates using Aconitase 1 (ACO1) Rabbit mAb (A4821) at 1:1000 dilution.
Secondary antibody: HRP-conjugated Goat anti-Rabbit IgG (H+L) (AS014) at 1:10000 dilution.
Lysates/proteins: 25µg per lane.
Blocking buffer: 3% nonfat dry milk in TBST.
Detection: ECL Basic Kit (RM00020).
Exposure time: 30s.



Confocal imaging of NIH/3T3 cells using Aconitase 1 (ACO1) Rabbit mAb (A4821, dilution 1:200) followed by a further incubation with Cy3 Goat Anti-Rabbit IgG (H+L) (AS007, dilution 1:500) (Red). The cells were counterstained with α-Tubulin Mouse mAb (AC012, dilution 1:400) followed by incubation with ABflo® 488-conjugated Goat Anti-Mouse IgG (H+L) Ab (AS076, dilution 1:500) (Green). DAPI was used for nuclear staining (Blue). Objective: 100x.



Confocal imaging of U-2 OS cells using Aconitase 1 (ACO1) Rabbit mAb (A4821, dilution 1:200) followed by a further incubation with Cy3 Goat Anti-Rabbit IgG (H+L) (AS007, dilution 1:500) (Red). The cells were counterstained with α-Tubulin Mouse mAb (AC012, dilution 1:400) followed by incubation with ABflo® 488-conjugated Goat Anti-Mouse IgG (H+L) Ab (AS076, dilution 1:500) (Green). DAPI was used for nuclear staining (Blue). Objective: 100x.



Confocal imaging of PC-12 cells using Aconitase 1 (ACO1) Rabbit mAb (A4821, dilution 1:200) followed by a further incubation with Cy3 Goat Anti-Rabbit IgG (H+L) (AS007, dilution 1:500) (Red). The cells were counterstained with α-Tubulin Mouse mAb (AC012, dilution 1:400) followed by incubation with ABflo® 488-conjugated Goat Anti-Mouse IgG (H+L) Ab (AS076, dilution 1:500) (Green). DAPI was used for nuclear staining (Blue). Objective: 100x.