10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

ACO1 Antibody (N-Term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP22028a

Product Information

Application	WB, E
Primary Accession	P21399
Other Accession	Q01059, Q63270
Reactivity	Human, Rat, Mouse
Predicted	Rat
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB54995
Calculated MW	98399

Additional Information

Gene ID	48
Other Names	Cytoplasmic aconitate hydratase, Aconitase, 4.2.1.3, Citrate hydro-lyase, Ferritin repressor protein, Iron regulatory protein 1, IRP1, Iron-responsive element-binding protein 1, IRE-BP 1, ACO1, IREB1
Target/Specificity	This ACO1 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 124-155 amino acids from human ACO1.
Dilution	WB~~1:2000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ACO1 Antibody (N-Term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ACO1
Synonyms	IREB1

Function	Bifunctional iron sensor that switches between 2 activities depending on iron availability (PubMed:1281544, PubMed:1946430, PubMed:8041788). Iron deprivation, promotes its mRNA binding activity through which it regulates the expression of genes involved in iron uptake, sequestration and utilization (PubMed:1281544, PubMed:1946430, PubMed:23891004, PubMed:8041788). Binds to iron-responsive elements (IRES) in the untranslated region of target mRNAs preventing for instance the translation of ferritin and aminolevulinic acid synthase and stabilizing the transferrin receptor mRNA (PubMed:1281544, PubMed:1946430, PubMed:23891004, PubMed:8041788).
Cellular Location	Cytoplasm, cytosol.

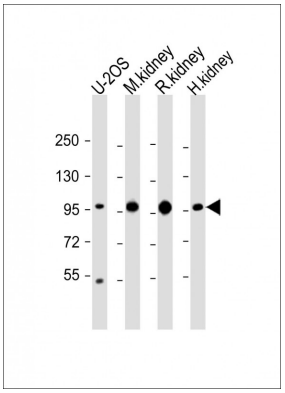
Background

Iron sensor. Binds a 4Fe-4S cluster and functions as aconitase when cellular iron levels are high. Functions as mRNA binding protein that regulates uptake, sequestration and utilization of iron when cellular iron levels are low. Binds to iron-responsive elements (IRES) in target mRNA species when iron levels are low. Binding of a 4Fe-4S cluster precludes RNA binding.

References

Hirling H.,et al.Nucleic Acids Res. 20:33-39(1992).
Humphray S.J.,et al.Nature 429:369-374(2004).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.
Rouault T.A.,et al.Proc. Natl. Acad. Sci. U.S.A. 87:7958-7962(1990).
Hentze M.W.,et al.Nucleic Acids Res. 19:1739-1740(1991).

Images



All lanes : Anti-ACO1 Antibody (N-Term) at 1:2000 dilution Lane 1: U-2OS whole cell lysate Lane 2: mouse kidney lysate Lane 3: rat kidney lysate Lane 4: human kidney lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 98 kDa Blocking/Dilution buffer: 5% NFDM/TBST.