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ACO1 Blocking Peptide (Center)

Synthetic peptide
Catalog # BP22029c

Specification

ACO1 Blocking Peptide (Center) - Product Information

Primary Accession	P21399
Other Accession	Q0VCU1, Q90875, Q01059

ACO1 Blocking Peptide (Center) - 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
The synthetic peptide sequence is selected from aa 374-388 of HUMAN ACO1

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

ACO1 Blocking Peptide (Center) - Protein Information

Name ACO1

Synonyms IREB1

Function
Bifunctional iron sensor that switches between 2 activities depending on iron availability (PubMed:1946430, PubMed:1281544, 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:1946430, PubMed:1281544, PubMed:8041788, PubMed:23891004). 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:1946430, PubMed:1281544, PubMed:8041788, PubMed:23891004).

Cellular Location
Cytoplasm, cytosol.

ACO1 Blocking Peptide (Center) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

ACO1 Blocking Peptide (Center) - Images

ACO1 Blocking Peptide (Center) - 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.

ACO1 Blocking Peptide (Center) - 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).