

Human ACO1 / irp1 Protein (His Tag)

Catalog Number: 10966-H07B



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

ACONS; HEL60; IREB1; IREBP; IREBP1; IRP1; Aco-1; Irebp; Irp1

Protein Construction:

A DNA sequence encoding the human ACO1 (P21399) (Met 1-Lys 889) was expressed, with a polyhistidine tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

Molecular Mass:

The recombinant human ACO1 consists of 908 amino acids and has a calculated molecular mass of 101 kDa. It migrates as an approximately 90 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 50mM Tris, 100mM NaCl, pH 8.0, 10% gly, 2mM DTT

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

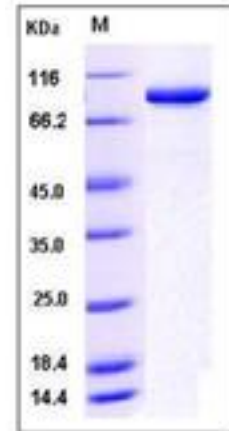
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Aconitase 1(ACO1) or IRP1 is one member of the aconitase family that contains a diverse group of iron-sulphur(Fe-S) isomerases and two types of iron regulatory protein. Aconitase exists in two forms: one is soluble and the other is mitochondrial. ACO1 is the soluble existing form, and the mitochondrial form is ACO2. Residues from all three N-terminal domains and the larger C-terminal domain contribute to the active site region. When the enzyme is activated, it gains an additional iron atom. ACO1 can assume two different functions in cells, depending on different conditions. During iron scarcity or oxidative stress, ACO1 binds to mRNA stem-loop structures called iron responsive elements to modulate the translation of iron metabolism genes. In iron-rich conditions, ACO1 binds an iron-sulfur cluster to function as a cytosolic aconitase.

References

1. Robbins AH, *et al.* (1989) The structure of aconitase. *Proteins: Structure, Function, and Bioinformatics.* 5 (4): 289-312.
2. Volz K. (2008) The functional duality of iron regulatory protein 1. *Curr Opin Struct Biol.* 18 (1): 106-11.
3. Gruer MJ, *et al.* (1997) The aconitase family: three structural variations on a common theme. *Trends Biochem Sci.* 22 (1): 3-6.

Manufactured By Sino Biological Inc., FOR RESEARCH USE ONLY. NOT FOR USE IN HUMANS.

Fax :+86-10-51029969 • Tel:+86-400-890-9989 • <http://www.sinobiological.com>