

Human ACY1 / Aminoacylase-1 Protein (His Tag)

Catalog Number: 10549-H08B



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

ACY-1; ACY1D; HEL-S-5; 1110014J22Rik; Acy-1

Protein Construction:

A DNA sequence encoding the full length of human ACY1 (NP_000657.1) (Met 1-Ser 408) was expressed with a polyhistidine tag at the C-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 ACY1 consists of 419 amino acids and predicts a molecular mass of 47.3 kDa. It migrates as an approximately 44 kDa protein in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 50mM Tris, 100mM NaCl, pH 8.0, 10% glycerol

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:

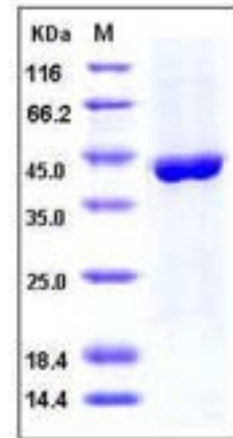
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Aminoacylase 1 (ACY1), a metalloenzyme that removes amide-linked ACY1 groups from amino acids and may play a role in regulating responses to oxidative stress. Both the C-terminal fragment found in the two-hybrid screen and full-length ACY1 co-immunoprecipitate with SphK1. Though both C-terminal and full-length proteins slightly reduce SphK1 activity measured in vitro, the C-terminal fragment inhibits while full-length ACY1 potentiates the effects of SphK1 on proliferation and apoptosis. It suggested that ACY1 physically interacts with SphK1 and may influence its physiological functions. As a homodimeric zinc-binding enzyme, Aminoacylase 1 catalyzes the hydrolysis of N alpha-acylated amino acids. Deficiency of Aminoacylase 1 due to mutations in the Aminoacylase 1 (ACY1) gene follows an autosomal-recessive trait of inheritance and is characterized by accumulation of N-acetyl amino acids in the urine.

References

- 1.Sommer A, *et al.* (2011) The molecular basis of aminoacylase 1 deficiency. *Biochim Biophys Acta.* 1812(6): 685-90.
- 2.Maceyka M, *et al.* (2004) Aminoacylase 1 is a sphingosine kinase 1-interacting protein. *FEBS Lett.* 568(1-3): 30-4.
- 3.Cook RM, *et al.*(1993) Human aminoacylase-1. Cloning, sequence, and expression analysis of a chromosome 3p21 gene inactivated in small cell lung cancer. *J Biol Chem.* 268(23): 17010-7.

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