

Human ALDH7A1 / ATQ1 Protein (His Tag)

Catalog Number: 11614-H07E



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

ATQ1; EPD; PDE; Atq1; D18Wsu181e

Protein Construction:

A DNA sequence encoding the human ALDH7A1 isoform 2 (P49419-2) (Ser 2-Gln 511) was expressed, with a polyhistidine tag at the N-terminus.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 93 % as determined by SDS-PAGE

Endotoxin:

Please contact us for more information.

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 ALDH7A1 consisting of 517 amino acids and migrates as an approximately 56 kDa band in SDS-PAGE under reducing conditions as predicted.

Formulation:

Lyophilized from sterile 50mM Tris, 500mM NaCl, 20% glycerol, pH 8.0

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:

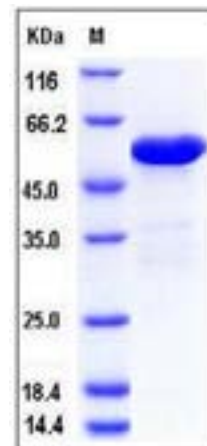
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

ALDH7A1 (Aldehyde dehydrogenase 7 family, member A1) is a member of subfamily 7 in the aldehyde dehydrogenase family. These enzymes are thought to play a major role in the detoxification of aldehydes generated by alcohol metabolism and lipid peroxidation. Mammalian ALDH7A1 is homologous to plant ALDH7B1 which protects against various forms of stress such as increased salinity, dehydration and treatment with oxidants or pesticides. In mammals, ALDH7A1 is known to play a primary role during lysine catabolism through the NAD⁺-dependent oxidative conversion of aminoadipate semialdehyde (AASA) to its corresponding carboxylic acid, α -aminoadipic acid. Deleterious mutations in human ALDH7A1 are responsible for pyridoxine-dependent and folinic acid-responsive seizures. ALDH7A1 is a novel aldehyde dehydrogenase expressed in multiple subcellular compartments that protects against hyperosmotic stress by generating osmolytes and metabolizing toxic aldehydes.

References

1. Brocker C, et al. (2011) Aldehyde dehydrogenase 7A1 (ALDH7A1) attenuates reactive aldehyde and oxidative stress induced cytotoxicity. *Chem Biol Interact.* 191(1-3): 269-77.
2. Brocker C, et al. (2010) Aldehyde dehydrogenase 7A1 (ALDH7A1) is a novel enzyme involved in cellular defense against hyperosmotic stress. *J Biol Chem.* 285(24): 18452-63.

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