

Human HAO1 / GOX1 Protein (His Tag)

Catalog Number: 12076-H07E



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

GOX; GOX1; HAOX1; GOX; Gox1; Hao-1

Protein Construction:

A DNA sequence encoding the native human HAO1 (NP_060015.1) (Leu 2-Ile 370) was expressed, with a polyhistidine tag at the N-terminus.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 97 % 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 HAO1 consisting of 376 amino acids and migrates as an 42 kDa band in SDS-PAGE under reducing conditions as predicted.

Formulation:

Lyophilized from sterile 20mM Tris, 500mM NaCl, 10% 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:

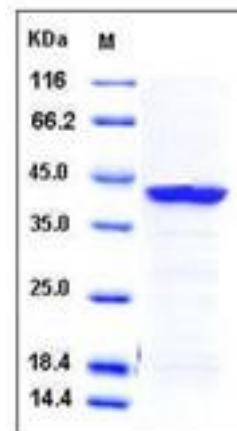
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Hydroxyacid oxidase 1, also known as Glycolate oxidase, HAO1 and GOX1, is a member of the FMN-dependent alpha-hydroxy acid dehydrogenase family. HAO1 / GOX1 has 2-hydroxyacid oxidase activity. It is most active on the 2-carbon substrate glycolate, but is also active on 2-hydroxy fatty acids, with high activity towards 2-hydroxy palmitate and 2-hydroxy octanoate. HAO1 / GOX1 is a liver-specific peroxisomal enzyme that oxidizes glycolate to glyoxylate with concomitant production of H₂O₂. In Hao1 messenger RNA (mRNA), an iron-responsive element (IRE) homologous to the sequence recognized by iron regulatory proteins (IRP), key regulators of iron homeostasis, is present. Mammalian HAO1 / GOX1 is a peroxisomal protein and that the C-terminal sequence SKI acts as the targeting signal. Down-regulation of HAO1 / GOX1 expression during oxidative stress may provide a mechanism to prevent excessive H₂O₂ formation in liver peroxisomes and may represent the prototype of a poorly recognized but potentially relevant response to oxidative injury involving down-regulation of ROS-producing enzymes.

References

1. Jones J.M. et al., 2000, J. Biol. Chem. 275:12590-7.
2. Recalcati, S. et al., 2001, J Cell Sci. 114 (Pt 9):1625-9.
3. Recalcati, S. et al., 2003, Hepatology. 38 (5):1159-66.

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