

# Recombinant human Hydroxyacid Oxidase-1/HAO-1 protein

Catalog Number: ATGP3841

## PRODUCT INFORMATION

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### Expression system

E.coli

### Domain

1-370aa

### UniProt No.

Q9UJM8

### NCBI Accession No.

NP\_060015

### Alternative Names

Hydroxyacid oxidase 1, GOX (glycolate oxidase), GOX1, HAOX1

## PRODUCT SPECIFICATION

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### Molecular Weight

45.0 kDa (406aa) confirmed by MALDI-TOF

### Concentration

1mg/ml (determined by Bradford assay)

### Formulation

Liquid in. 20mM Tris-HCl buffer (pH 8.0) containing 20% glycerol, 0.5M NaCl

### Purity

> 95% by SDS-PAGE

### Endotoxin level

< 1 EU per 1ug of protein (determined by LAL method)

### Biological Activity

Specific activity is > 3,000pmol/min/ug, and defined as the amount of enzyme that oxidize glyoxylate at pH 8.0 at 25C.

### Tag

His-Tag

### Application

SDS-PAGE, Enzyme Activity

### Storage Condition

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

## BACKGROUND

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# Recombinant human Hydroxyacid Oxidase-1/HAO-1 protein

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## Description

HAO1, also known as glycolate oxidase, is a member of the superfamily of the alpha hydroxy acid oxidases (HAO) enzymes. It catalyzes the FMN mediated oxidation of glycolate to glyoxylate and glyoxylate to oxalate with reduction of oxygen to hydrogen peroxide. It is most highly expressed in liver and pancreas and is most active on twocarbon substrates such as glycolate. Recently, it has been identified as a major contributor to hyperoxaluria, a disorder in which large deposits of calcium oxalate form kidney stones. Recombinant human HAO1 protein, fused to His-tag at N-terminus, was expressed in E. coli and purified by using conventional chromatography.

## Amino acid Sequence

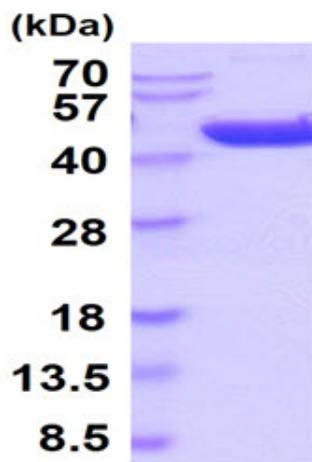
MRGSHHHHHH GMASMTGGQQ MGRDLYDDDD KDRWGSMLPR LICINDYEQH AKSVLPKSIY DYYRSGANDE  
 ETLADNIAAF SRWKLYPRML RNVAETDLST SVLGQRVSMPC ICVGATAMQR MAHVDGELAT VRACQSLGTG MMLSSWATSS  
 IEEVAEAGPE ALRWLQLYIY KDREVTKKLV RQAEKMGYKA IFVTVDTPYL GNRLDDVRNR FKLPPQLRMK NFETSTLSFS  
 PEENFGDDSG LAAYVAKAID PSISWEDIKW LRRLTSLPIV AKGILRGDDA REAVKHGLNG ILVSNHGARQ LDGVPATIDV  
 LPEIVEAVEG KVEVFLDGGV RKGTDVLKAL ALGAKAVFVG RPIVWGLAFQ GEKGVQDVLE ILKEEFRLAM ALSGCQNVKV  
 IDKTLVRKNP LAVSKI

## General References

Pennati A., et al. (2009) J. Biol. Chem. 284:31214.

## DATA

### SDS-PAGE



3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain.

15% SDS-PAGE (3ug)