

# Recombinant human Catalase protein

Catalog Number: ATGP1624

## PRODUCT INFORMATION

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### Expression system

E.coli

### Domain

1-527aa

### UniProt No.

P04040

### NCBI Accession No.

NP\_001743

### Alternative Names

CAT

## PRODUCT SPECIFICATION

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### Molecular Weight

61.9 kDa (547aa)

### Concentration

1mg/ml (determined by Bradford assay)

### Formulation

Liquid in. 20mM Tris-HCl buffer (pH 8.0) containing 0.15M NaCl, 10% glycerol

### Purity

> 90% by SDS-PAGE

### Biological Activity

Specific activity is > 100,000unit/mg. One unit will decompose 1.0umole of H<sub>2</sub>O<sub>2</sub> per minute 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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### Description

CAT is a key antioxidant enzyme in the bodies defense against oxidative stress. Also, it is a heme enzyme that is present in the peroxisome of nearly all aerobic cells. CAT converts the reactive oxygen species hydrogen peroxide to water and oxygen and thereby mitigates the toxic effects of hydrogen peroxide. Recombinant human CAT protein, fused to His-tag at N-terminus, was expressed in E. coli and purified by using conventional

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chromatography techniques.

## Amino acid Sequence

<MGSSHHHHHH SSGLVPRGSH> MADSRDPASD QMQHWKEQRA AQKADVLTTG AGNPVGDKLN VITVGPRGPL  
LVQDVVFTDE MAHFDRERIP ERVVHAKGAG AFGYFEVTHD ITKYSKAKVF EHIGKKTPIA VRFSTVAGES GSADTVRDPR  
GFAVKFYTED GNWDLVGNNT PIFFIRDPII FPSFIHSQKR NPQTHLKDPD MVWDFWSLRP ESLHQVSFLF SDRGIPDGHR  
HMNGYGSHTF KLVNANGEAV YCKFHYKTDQ GIKNLSVEDA ARLSQEDPDY GIRDLFNAIA TGKYPSTWTFY IQVMTFNQAE  
TFPFNPFDLT KVWPHKDYPL IPVGKLVLR NPVNYFAEVE QIAFDPSNMP PGIEASPKM LQGRLFAYPD THRHRLGPNY  
LHIPVNCYPYR ARVANYQRDG PMCMQDNQGG APNYYPNSFG APEQQPSALE HSIQYSGEVR RFNTANDDNV TQVRAFVNV  
LNEEQKRKRLC ENIAGHLKDA QIFIQKAVK NFTEVHPDYG SHIQALLDKY NAEKPKNAIH TQVQSGSHLA AREKANL

## General References

Freitas MO, et al. (2011) J Biol Chem. 2011 Nov 25  
286(47):40509-19. Epub 2011 Oct 5.

## DATA

### SDS-PAGE

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

