

Active Recombinant Human CAT Protein, His-tagged, Animal Free, Beta-lactam Antibiotics Free

Cat. No. CAT-2514H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human CAT Protein with His tag was produced in E. coli and was produced in Animal Free and Beta-lactam Antibiotics Free conditions.
Species	Human
Source	E.coli
ProteinLength	1-527 aa
Description	This gene encodes catalase, a key antioxidant enzyme in the bodies defense against oxidative stress. Catalase is a heme enzyme that is present in the peroxisome of nearly all aerobic cells. Catalase converts the reactive oxygen species hydrogen peroxide to water and oxygen and thereby mitigates the toxic effects of hydrogen peroxide. Oxidative stress is hypothesized to play a role in the development of many chronic or late-onset diseases such as diabetes, asthma, Alzheimer's disease, systemic lupus erythematosus, rheumatoid arthritis, and cancers. Polymorphisms in this gene have been associated with decreases in catalase activity but, to date, acatalasemia is the only disease known to be caused by this gene.
Bio-activity	Measured by its ability to degrade hydrogen peroxide using Invitrogen Amplex™ Red Catalase Assay Kit (Cat# A22180). The specific activity is 181 KU/mg
Molecular Mass	61.9 kDa

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AA Sequence

MGSSHHHHHSSGLVPRGSHMADSRDPASDQMQRHWKEQRAAQKADVLTTGAGN
 PVGDKLNVITVGPRGPLLVQDVVFTDEMAHFDRERIPERVVHAKGAGAFGYFEVTH
 DITKYSKAKVFEHIGKKTPIAVRFSTVAGESGSADTVRDPRGFAVKFYTEDGNWDLV
 GNNTPIFFIRDPILFPSFIHSQKRNPQTHLKDPDMVWDFWSLRPESLHQVSFLFSR
 GIPDGHHRHMNGYGSHTFKLVNANGEAVYCKFHYKTDQGIKNLSVEDAARLSQEDPD
 YGIRDLFNAIATGKYPSWTFYIQVMTFNQAETFPFNPFDLT KVWPHKDYPLIPVGKLV
 LNRNPVNYFAEVEQIAFDPSNMPPGIEASPDKMLQGRLFAYPDTHRHRLGPNYLHIP
 VNCPYRARVANYQRDGP MCMQDNQGGAPNYYPNSFGAPEQQPSALEHSIQYSGE
 VRRFNTANDDNVTQVRAFVYVNVLNEEQRKRLCENIAGHLKDAQIFIQKKAVKNFTEV
 HPDYGSHIQALLDKYNAEKPKNAIHTFVQSGSHLAAREKANL

Purity > 90% by SDS-PAGE

Storage Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

Concentration 1.66 mg/mL

Storage Buffer 20mM Tris, 150mM NaCl, 10% glycerol, pH 8.0

GENE INFORMATION

Gene Name [CAT catalase \[Homo sapiens \(human\) \]](#)

Official Symbol [CAT](#)

Synonyms CAT; catalase; MGC138422; MGC138424;

Gene ID [847](#)

mRNA Refseq [NM_001752](#)

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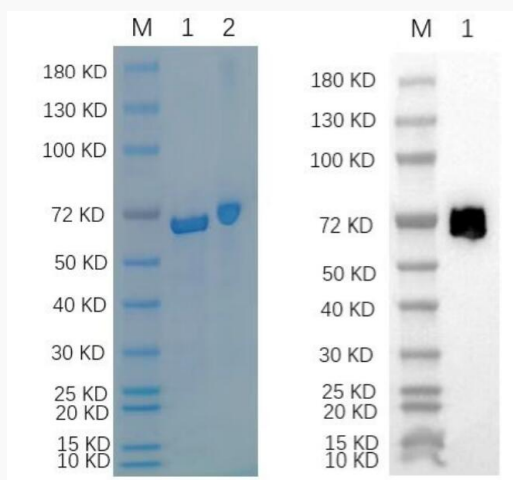
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Protein Refseq NP_001743

MIM 115500

UniProt ID P04040

**Reducing 12% SDS-
PAGE and WB
analysis profiles of
purified CAT (CBB
stained)**



Lane M: Marker

Lane 1: Purified CAT protein

Lane 2: 1 µg BSA as positive control.

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