

**AR50448PU-N****Human Catalase (1-527, His-tag) - Purified**

<b>Alternate names:</b>	CAT, Peroxisome Marker
<b>Quantity:</b>	0.5 mg
<b>Concentration:</b>	1 mg/ml (determined by Bradford assay)
<b>Background:</b>	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.
<b>Uniprot ID:</b>	<a href="#">P04040</a>
<b>NCBI:</b>	<a href="#">NP_001743</a>
<b>GeneID:</b>	<a href="#">847</a>
<b>Species:</b>	Human
<b>Source:</b>	E. coli
<b>Format:</b>	<b>State:</b> Liquid purified protein <b>Purity:</b> >90% by SDS - PAGE <b>Buffer System:</b> 20 mM Tris-HCl buffer (pH 8.0) containing 0.15M NaCl, 10% glycerol
<b>Description:</b>	Recombinant human CAT protein, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography techniques. <b>AA Sequence:</b> <u>MGSSHHHHHH SSGLVPRGSH</u> MADSRDPASD QMQHWKEQRA AQQADVLTTG AGNPVGDKLN VITVGPGRGPL LVQDVVFTDE MAHFDREERIP ERVVHAKGAG AFGYFEVTHD ITKYSKAKVF EHIGKKTPIA VRFSTVAGES GSADTVRDPGR GFAVKFYTED GNWDLVGNNT PIFFIRDPIIL FPSFIHSQKR NPQTHLKDPD MVWDFWSLRP ESLHQVSFLF SDRGIPDGHR HMNGYGSHTF KLVNANGEAV YCKFHYKTDQ GIKNLSVEDA ARLSQEDPDY GIRDLFNAIA TGKYPSTWTFY IQVMTFNQAE TFPFNPFDLT KVVPHKDYPL IPVGKLVVLR NPVNYFAEVE QIAFDPSNMP PGIEASPDKM LQGRLFAYPD THRHRLGPNY LHIPVNCYPYR ARVANYQRDG PMCMQDNQGG APNYYPNSFG APEQQPSALE HSIQYSGEVR RFNTANDDNV TQVRAFVYVNV LNEEQRKRLC ENIAGHLKDA QIFIQKKA VK NFTEVHPDYG SHIQALLDKY NAEKPKNAIH TFPVQSGSHLA AREKANL <b>Specific Activity:</b> >30,000 units/mg. One unit will decompose 1.0 umole of H <sub>2</sub> O <sub>2</sub> per minute at pH 8.0 at 25°C. (Activity assay see "Protocols"). <b>Molecular weight:</b> 61.9 kDa (547aa)
<b>Storage:</b>	Store undiluted at 2-8°C for one week or (in aliquots) at -20°C to -80°C for longer. Avoid repeated freezing and thawing. Shelf life: one year from despatch.
<b>General Readings:</b>	Freitas MO, et al. (2011) J Biol Chem. 2011 Nov 25;286(47):40509-19. Epub 2011 Oct 5.
<b>Protocols:</b>	<b>Activity assay:</b> 1. Prepare an assay buffer with the following concentrations: 50 mM Potassium Phosphate (pH 8.0) and 0.15 % H <sub>2</sub> O <sub>2</sub> . 2. Load 150ul assay buffer into each well.

3. Add 50ul of recombinant CAT protein with 0.25ug, 0.125ug to each well.
4. Record the decrease in A260nm for 5 minutes at 25°C using UV plate.

## Pictures:

