

Product datasheet for **AR50448PU-S**

Catalase (1-527, His-tag) Human Protein

Product data:

Product Type:	Recombinant Proteins
Description:	Catalase (1-527, His-tag) human recombinant protein, 0.1 mg
Species:	Human
Expression Host:	E. coli
Expression cDNA Clone or AA Sequence:	<u>MGSSHHHHHH SSSLVPRGSH</u> MADSRDPASD QMQHWKEQRA AQKADVLTTG AGNPVGDKLN VITVGPRGPL LVQDVVFTDE MAHFDREIRIP ERVHAKGAG AFGYFEVTHD ITKYSKAKVF EHIGKKTPIA VRFSTVAGES GSADTVRDPR GFAVKFYTED GNWDLVGNNT PIFFIRDPII FPSFIHSQKR NPQTHLKDPD MVWDFWSLRP ESLHQVSFLF SDRGIPDGHR HMNGYGSHTF KLVNANGEAV YCKFHYKTDQ GIKNLSVEDA ARLSQEDPDY GIRDLFNAIA TGKYPSTWTFY IQVMTFNQAE TFPFNPFDLT KVWPHKDYPL IPVGKLVLRN NPVNYFAEVE QIAFDPSNMP PGIEASPDKM LQGRLFAYPD THRHRGPNY LHIPVNCYPY ARVANYQRDG PMCMQDNQGG APNYYPNSFG APEQQPSALE HSIQYSGEVR RFNTANDDNV TQVRAFVNV LNEEQRKRLC ENIAGHLKDA QIFIQKKA VK NFTEVHPDYG SHIQALLDKY NAEKPKNAIH TFVQSGSHLA AREKANL
Tag:	His-tag
Predicted MW:	61.9 kDa
Concentration:	lot specific
Purity:	>90% by SDS - PAGE
Buffer:	Presentation State: Purified State: Liquid purified protein Buffer System: 20 mM Tris-HCl buffer (pH 8.0) containing 0.15M NaCl, 10% glycerol
Bioactivity:	Specific: >30,000 units/mg. One unit will decompose 1.0 umole of H ₂ O ₂ per minute at pH 8.0 at 25°C. (Activity assay see "Protocols").
Preparation:	Liquid purified protein



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Applications:	Protocol: Activity assay: <ol style="list-style-type: none">1. Prepare an assay buffer with the following concentrations: 50 mM Potassium Phosphate (pH 8.0) and 0.15 % H₂O₂.2. 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.
Protein Description:	Recombinant human CAT protein, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography techniques.
Storage:	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.
Stability:	Shelf life: one year from despatch.
RefSeq:	NP_001743
Locus ID:	847
UniProt ID:	P04040
Cytogenetics:	11p13
Synonyms:	CAT, Peroxisome Marker
Summary:	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. [provided by RefSeq, Oct 2009]
Protein Families:	Protocol: Activity assay: <ol style="list-style-type: none">1. Prepare an assay buffer with the following concentrations: 50 mM Potassium Phosphate (pH 8.0) and 0.15 % H₂O₂.2. 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.
Protein Pathways:	Amyotrophic lateral sclerosis (ALS), Metabolic pathways, Methane metabolism, Tryptophan metabolism

Product images:

