
Product Data Sheet

Product Name: CAT Human
 Cat. No.: GP21466
 Batch No.: 1

Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.

Synonyms Catalase; CAT.

Amino Acid Sequence

MGSSHHHHHH SGLVPRGSH MADSRDPASD QMQHWKEQRA AQKADVLTTG
 AGNPVGDKLN VITVGPRGPL LVQDVVFTDE MAHFDRERIP ERVVHAKGAG
 AFGYFEVTHD ITKYSKAKVF EHIGKKTPIA VRFSTVAGES GSADTVRDPR
 GFAVKFYTED GNWDLVGNNT PIFFIRDPIIL FPSFIHSQKR NPQTHLKDPD
 MVWDFWSLRP ESLHQVSFLF SDRGIPDGHR HMNGYGSHTF KLVNANGEAV
 YCKFHYKTDQ GIKNLSVEDA ARLSQEDPDY GIRDLFNAIA TGKYPSTWTFY
 IQVMTFNQAE TFPFNPFDLT KVWPHKDYPL IPVGKLVVLR NPVNYFAEVE
 QIAFDPSNMP PGIEASPKM LQGRLFAYPD THRHRLGPNY LHIPVNCYPYR
 ARVANYQRDG PMCMQDNQGG APNYYPNSFG APEQQPSALE HSIQYSGEVR
 RFNTANDDNV TQVRAFVNV LNEEQRKRLC ENIAGHLKDA QIFIQKKAVK
 NFTEVHPDYG SHIQALLDKY NAEKPKNAIH TQVQSGSHLA AREKANL.

Formulation The CAT solution (1mg/ml) contains 20mM Tris-HCl buffer (pH 8.0), 0.15M NaCl and 10% glycerol.

Introduction

Catalase (CAT) is a key antioxidant enzyme in the body's defense against oxidative stress. Furthermore, Catalase is a heme enzyme which is present in the peroxisome of virtually all aerobic cells. Catalase converts the reactive oxygen species hydrogen peroxide to water and oxygen and thus diminishes the toxic effects of hydrogen peroxide. Catalase stimulates growth of cells including T-cells, B-cells, myeloid leukemia cells, melanoma cells, mastocytoma cells and normal and transformed fibroblast cells. Catalase gene polymorphisms are linked with decreases in catalase activity nevertheless, to date, acatalasemia is the only disease known to be caused by the CAT gene.

Caution: Product has not been fully validated for medical applications. For research use only.

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Biological Activity

Specific activity is >30,000 unit/mg.

Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

Background

CAT Human Recombinant produced in E.coli is a single, non-glycosylated polypeptide chain containing 547 amino acids (1-527) and having a molecular mass of 61.9kDa. CAT is fused to a 20 amino acid His-tag at N-terminus & purified by proprietary chromatographic techniques.

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