ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Catalase (CATL) Antibodies

Cat. # CATL11-A	Rabbit Anti-Human Catalase IgG,	**SIZE**: 100 ul
Cat. # CATL11-C	Human Catalase protein control for WB	**SIZE**: 100 ul

Highly reactive and potentially dangerous reactive oxygen species (ROS) are normally produced within the cells, primarily from the mitochondrial respiratory chain where in excess electrons are donated to molecular oxygen (o2) to generate peroxide anion (O2-). Superoxide anion is reduced by the superoxide dismutase (SOD) to hydrogen peroxide (H2O2) and hydrogen peroxide is reduced to water (H2O) by catalase, located primarily in the peroxisomes, and by glutathione peroxidase (GPx), located in the mitochondria and cytosol. Hydrogen peroxide, in the presence of transitions metals, can be converted to the highly toxic hydroxyl radical (OH.) and all three of the ROS (O2-, H2O2, and OH.) can damage macromolecules (proteins, DNA etc). The GPxs are commonly considered the most important for ROS defense since they have broader substrate specificities and stronger affinity for H2O2 than catalases.

Catalase (CATA, 527 aa, chromosome 11p13) is peroxisomal enzyme found in almost all aerobically respiring organisms and serves to protect cells from the toxic effects of hydrogen peroxide. It is homotetramer. Defects in CAT are the cause of acatalasia or acatalasemia. This disease is characterized by absence of catalase activity in red cells and is often associated with ulcerating oral lesions.

Source of Antigen and Antibodies

Antigen	Purified Human Catalase from red cells (erythrocytes)
Ab Host/type	Rabbit, Polyclonal, IgG (**Cat # CATL11-A)** purified by salt fractionation and DEAE column
2ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Human Catalase was purified from red cells (erythrocytes) and used for control. Human CATL11-C protein for Western blot +ve control (**Cat # CATL11-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **CATL11**-C for good visibility with antibody Cat # **CATL11**-A. Store at –20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels.

If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **CATL11**-C solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. This preparation is intended for qualitative purpose and not to serve as standard of known concentration. Do not freeze, thaw, or hear repeatedly

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Storage

Short-term: unopened, undiluted liquid vials at -20^{O}C and powder at 4^{o}C or -20^{o}C..

Long-term: at –20^{0}C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20^{o}C or below.
Shipping: 4^{o}C for solutions and room temp for powder

Recommended Usage

Western Blotting (1:500-1:2000) using ECL technique). A 60-65-kda band (under reducing condition) is observed. Native protein is ~256 Kda.

ELISA: Control antigen can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1k-10K

Histochemistry & Immunofluorescence: Not tested.

Specificity & Cross-reactivity

Anti-Catalase antibodies react with human and mouse catalase from red cells. Antibody cross-reactivity in various species has not been studied.

General References: Bell GI et al (1986) Nucl Acid Res. 14, 5561-5562; Ogata M et al (1991) Hum Genet. 86, 331-340; Quan F et al (1986) Nucl Acid. Res. 14, 5321-5335; Wen J et al (1990) J. Mol. Biol. 211, 383-393;

*This product is for In vitro research use only.

Related material available from ADI

Antibodies to SOD1-3, GST alpha, mu, pi
Nitrotyrosine, MDA, HNE,

CATL11-A-C 71216S

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