SANTA CRUZ BIOTECHNOLOGY, INC.

catalase (H-300): sc-50508

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

Catalase is a peroxisome-specific marker protein belonging to the catalase family. Defects in the gene encoding for the catalase protein can cause acatalasia, a disease characterized by the absence of catalase activity in red cells and associated with ulcerating oral lesions. Catalase is also an important regulator of oxidative stress and inflammation, and may contribute to the development of rheumatoid arthritis. Catalase, which can form a homotetramer, is found in nearly all aerobically respiring organisms and functions in protecting cells from the toxic effects of hydrogen peroxide.

CHROMOSOMAL LOCATION

Genetic locus: CAT (human) mapping to 11p13; Cat (mouse) mapping to 2 E2.

SOURCE

catalase (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of catalase of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

catalase (H-300) is recommended for detection of catalase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

catalase (H-300) is also recommended for detection of catalase in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for catalase siRNA (h): sc-45330, catalase siRNA (m): sc-45331, catalase shRNA Plasmid (h): sc-45330-SH, catalase shRNA Plasmid (m): sc-45331-SH, catalase shRNA (h) Lentiviral Particles: sc-45330-V and catalase shRNA (m) Lentiviral Particles: sc-45331-V.

Molecular Weight of catalase: 64 kDa.

Positive Controls: TF-1 cell lysate: sc-2412, mouse kidney extract: sc-2255 or rat kidney extract: sc-2394.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

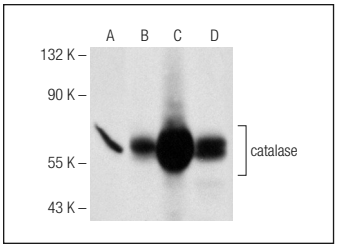
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

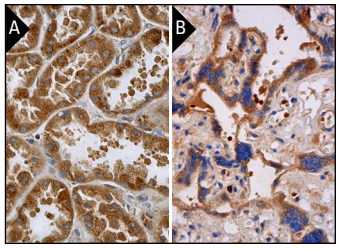
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



catalase (H-300): sc-50508. Western blot analysis of catalase expression in TF-1 whole cell lysate (**A**) and mouse kidney (**B**), rat kidney (**C**) and mouse liver (**D**) tissue extracts.



catalase (H-300): sc-50508. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells (**B**).

SELECT PRODUCT CITATIONS

1. Lebiedzinska, M., et al. 2009. Age-related changes in levels of p66^{Shc} and serine 36-phosphorylated p66^{Shc} in organs and mouse tissues. Arch. Biochem. Biophys. 486: 73-80.
2. de la Mata, M., et al. 2015. Pharmacological chaperones and coenzyme Q_{10} treatment Improves mutant β-Glucocerebrosidase activity and mitochondrial function in neuronopathic forms of Gaucher disease. Sci. Rep. 5: 10903.
3. Uetake, Y., et al. 2015. High-salt in addition to high-fat diet may enhance inflammation and fibrosis in liver steatosis induced by oxidative stress and dyslipidemia in mice. Lipids Health Dis. 14: 6.
4. Bagulho, A., et al. 2015. The extracellular matrix modulates H_2O_2 degradation and redox signaling in endothelial cells. Redox Biol. 6: 454-460.
5. Schultz, A., et al. 2015. Differences and similarities in hepatic lipogenesis, gluconeogenesis and oxidative imbalance in mice fed diets rich in fructose or sucrose. Food Funct. 6: 1684-1691.
6. Pimenta, M., et al. 2015. High-intensity interval training beneficial effects on body mass, blood pressure, and oxidative stress in diet-induced obesity in ovariectomized mice. Life Sci. 139: 75-82.
7. Gallorini, M., et al. 2015. Activation of the Nrf2-regulated antioxidant cell response inhibits HEMA-induced oxidative stress and supports cell viability. Biomaterials 56: 114-128.