SANTA CRUZ BIOTECHNOLOGY, INC.

catalase (N-17): sc-34280

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, CAT, 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 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide 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.

Blocking peptide available for competition studies, sc-34280 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

catalase (N-17) 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 (N-17) is also recommended for detection of catalase in additional species, including canine, bovine and porcine.

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.

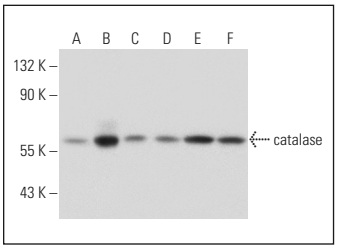
Molecular Weight of catalase: 64 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, catalase (h): 293T Lysate: sc-112459 or Hep G2 cell lysate: sc-2227.

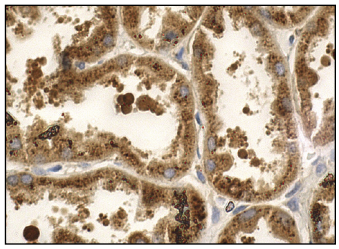
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



catalase (N-17): sc-34280. Western blot analysis of catalase expression in non-transfected 293T: sc-117752 (**A**), human catalase transfected 293T: sc-112459 (**B**), HeLa (**C**), Jurkat (**D**), Hep G2 (**E**) and K-562 (**F**) whole cell lysates.



catalase (N-17): sc-34280. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Ota, H., et al. 2010. Induction of endothelial nitric oxide synthase, SIRT1, and catalase by statins inhibits endothelial senescence through the Akt pathway. Arterioscler. Thromb. Vasc. Biol. 30: 2205-2211.
2. Dickinson, B.C., et al. 2011. Nox2 redox signaling maintains essential cell populations in the brain. Nat. Chem. Biol. 7: 106-112.
3. Humanes, B., et al. 2012. Cilastatin protects against cisplatin-induced nephrotoxicity without compromising its anticancer efficiency in rats. Kidney Int. 82: 652-663.
4. Wang, J.M., et al. 2014. MicroRNA miR-27b rescues bone marrow-derived angiogenic cell function and accelerates wound healing in type 2 diabetes mellitus. Arterioscler. Thromb. Vasc. Biol. 34: 99-109.

RESEARCH USE

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