Catalase Rabbit Polyclonal Antibody

RPCA-Catalase

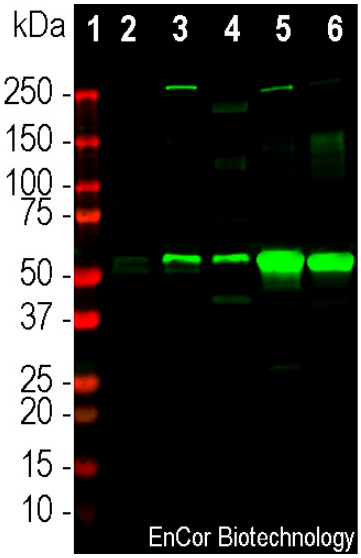
Ordering Information
Web *www.encorbio.com*
Email *admin@encorbio.com*
Phone *352-372-7022*
Fax *352-372-7066*

HGNC Name: *CAT*
UniProt: *P0440*
RRID: *Pending*
Immunogen: *Full length human catalase expressed in and purified from E. coli.*
Format: *Purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM Sodium azide*
Storage: *Stable at 4°C for one year, for longer term store at -20°C*
Recommended dilutions:
WB: 1:2,000. IF/ICC 1:2,000. IHC: 1:2:000

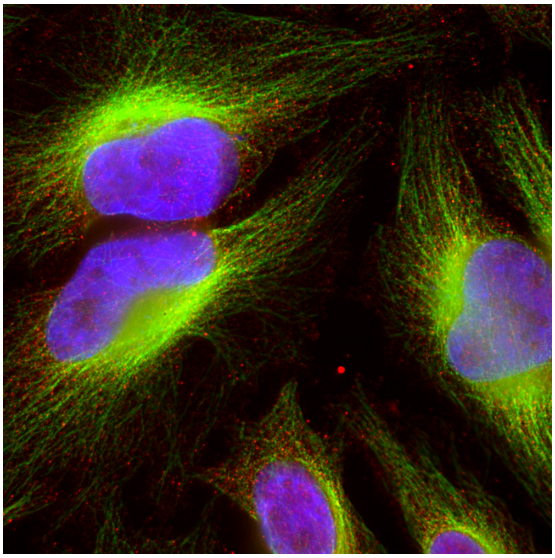
References:

1. Kirkman HN. and Gaetani GF. Mammalian catalase: a venerable enzyme with new mysteries. Trends Bioiochem Sci 32:44-50 (2006).
2. Goyal MM and Basak A. Human catalase: looking for complete identity. Protein and Cell 2:888-897 (2010).

Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
WB, IF/ICC, IHC	Rabbit		60kDa	Hu, Rt, Ms



Western blot analysis of mouse tissue lysates using rabbit pAb to catalase, RPCA-Catalase, dilution 1:2,000 in green: [1] protein standard (red) and mouse tissues, specifically [2] brain, [3] lung, [4] heart, [5] liver, and [6] kidney. The strong band at about 60kDa corresponds to catalase protein. Brain contains relatively little catalase although it is a major component of other tissues studied, especially liver.



Immunofluorescent analysis of HeLa cell culture stained with rabbit pAb to catalase, RPCA-Catalase, dilution 1:2,000 in red, and costained with mouse mab to β-tubulin, MCA-4E4, dilution 1:5,000 in green. The blue is Hoechst staining of nuclear DNA. The RPCA-Catalase antibody reveals vesicular staining of peroxisomes in the cytoplasm, and MCA-4E4 antibody produces strong staining of cytoplasmic microtubules.

Background:

Catalase is an enzyme found in all living organisms, including animals, plants, and microorganisms (1, 2). It is present in the peroxisomes, which are small, membrane-bound organelles responsible for various metabolic reactions in cells. Catalase is responsible for the breakdown of hydrogen peroxide (H2O2) into water (H2O) and oxygen (O2). Hydrogen peroxide is a byproduct of various biochemical reactions in cells and can be harmful if allowed to accumulate, as it can damage cellular proteins, lipids and nucleic acids. Catalase therefore prevents oxidative stress and maintains cellular health. Catalase forms a tetramer in vivo, and, like hemoglobin and the cytochromes, each subunit contains an iron containing heme group. The enzyme catalase is widely studied in biochemistry as liver is a rich source of the native protein which allowed early purification, amino acid sequence determination and crystallization. Catalase is implicated in understanding cellular physiology, aging, and various diseases associated with oxidative stress, such as neurodegenerative disorders and certain cancers.

The RPCA-Catalase antibody was made against full length recombinant human catalase expressed in and purified from *E. coli*. The antibody recognizes catalase in human, rodents and many other mammals and is a useful immunocytochemical marker of peroxisomes. It also works well for IHC on neutral buffered formalin fixed and paraffin embedded specimens, see data under "Additional Info" tab. We also supply a mouse monoclonal antibody to catalase, MCA-6H14.

Abbreviation Key:

mAb—Monoclonal Antibody pAb—Polyclonal Antibody WB—Western Blot IF—Immunofluorescence ICC—Immunocytochemistry IHC—Immunohistochemistry E—ELISA Hu—Human Mo—Monkey Do—Dog Rt—Rat Ms—Mouse Co—Cow Pi—Pig Ho—Horse Ch—Chicken Dr—D. rerio Dm—D. melanogaster Sm—S. mutans Ce—C. elegans Sc—S. cerevisiae Sa—S. aureus Ec—E. coli.