abcam

ab217793

Anti-Catalase antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.02% Proclin 300 Constituents: 50% Glycerol (glycerin, glycerine), 48.98% TBS, 1X, 1% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human Catalase aa 250-350 conjugated to Keyhole Limpet Haemocyanin. The exact immunogen used to generate this antibody is proprietary information. Database link P04040
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/100 - 1/1000
Notes	-

Species	Rat
Dilution info	1/100 - 1/1000

Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Rat
Dilution info	1/100 - 1/500
Notes	-

Expected

Species	Mouse, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information Catalase

Function	Catalyzes the degradation of hydrogen peroxide (H(2)O(2)) generated by peroxisomal oxidases to water and oxygen, thereby protecting cells from the toxic effects of hydrogen peroxide (PubMed:7882369). Promotes growth of cells including T-cells, B-cells, myeloid leukemia cells, melanoma cells, mastocytoma cells and normal and transformed fibroblast cells (PubMed:7882369).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Catalase also known as CAT is an enzyme that catalyzes the decomposition of hydrogen peroxide into water and oxygen. This enzyme has a molecular weight of approximately 240 kDa and typically forms a tetramer. Catalase mainly resides in peroxisomes functioning as a peroxisome marker. It expresses abundantly in the liver kidneys and erythrocytes where it plays significant roles in cellular protection against oxidative damage. The presence of Catalase makes it an ideal candidate for use in peroxisome staining and peroxisome image analysis in research.
Biological function summary	Catalase contributes to antioxidant defense by breaking down hydrogen peroxide preventing cellular damage. In peroxisomes it works alongside other peroxisomal enzymes to maintain cell health and metabolic regulation. Catalase does not form a complex but interacts closely with other enzymes like superoxide dismutase which dismutates superoxide radicals into less harmful substances. Increased Catalase activity levels can be measured using Catalase activity kits and activity assays allowing us to learn about peroxisome function.
Pathways	Hydrogen peroxide removal by Catalase is vital in the reactive oxygen species (ROS) metabolic process and plays a part in the cellular response to oxidative

	stress. Catalase interacts with the glutathione peroxidase pathway safeguarding cells from oxidative stress-related damage. Superoxide dismutase works synergistically with Catalase transforming superoxide anions into hydrogen peroxide before its decomposition by Catalase. These activities highlight the essential role Catalase plays in protecting cells from oxidative stress damage.
Associated diseases and disorders	Catalase relates to conditions like acatalasemia and diabetes. Acatalasemia a condition caused by a deficiency of Catalase increases the risk of developing diabetes and other oxidative stress-related diseases. Mutations in the CAT gene can lead to decreased Catalase activity contributing to the onset of these conditions. Additionally Catalase works with other proteins like glutathione peroxidase in mitigating the effects of oxidative stress with deficiencies potentially exacerbating complications in diabetes management.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

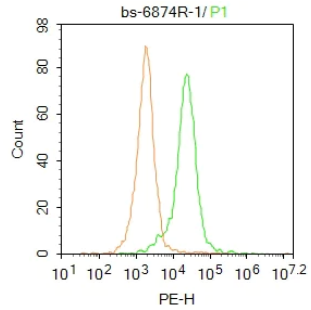
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

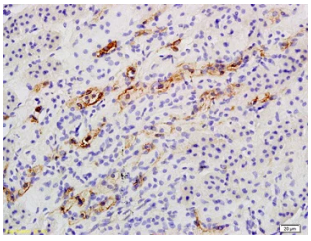
4 product images



Flow Cytometry (Intracellular) - Anti-Catalase antibody (ab217793)

Catalase Flow Cytometry (Intracellular) staining using rabbit Anti-Catalase antibody

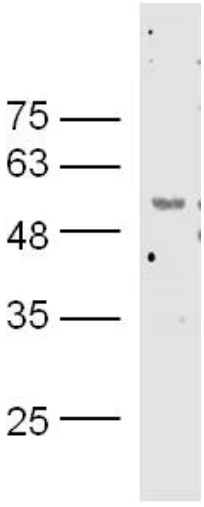
Intracellular Flow Cytometry of HL-60 cells with ab216640 at 1/50



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Catalase antibody (ab217793)

Catalase Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Catalase antibody

Immunohistochemical analysis of formalin fixed, paraffin embedded Rat kidney tissue labeling Catalase with ab217793 at 1/100 dilution followed by conjugation to the secondary antibody and DAB staining.



Western blot - Anti-Catalase antibody (ab217793)

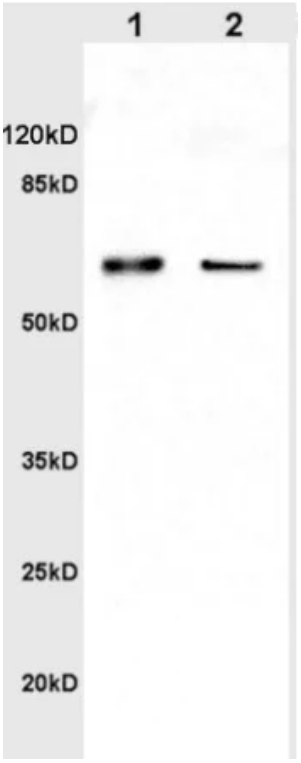
All lanes:
Western blot - Anti-Catalase antibody (ab217793) at 1/300 dilution

All lanes:
Mouse liver lysate

Secondary

All lanes:
Goat Anti-Rabbit IgG Antibody (H+L), HRP Conjugated at 1/500 dilution

Predicted band size: 60 kDa



Western blot - Anti-Catalase antibody (ab217793)

All lanes:
Western blot - Anti-Catalase antibody (ab217793) at 1/200 dilution

Lane 1:
Rat kidney lysate

Lane 2:
Rat brain lysate

Secondary

All lanes:
Goat Anti-Rabbit IgG Antibody (H+L), HRP Conjugated at 1/3000 dilution

Predicted band size: 60 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.