Human Catalase Antibody

Monoclonal Mouse IgG_1 Clone # 724810

Catalog Number: MAB3398

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Catalase in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant mouse Catalase or recombinant human Serpin C1 is observed.
Source	Monoclonal Mouse IgG_1 Clone # 724810
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human Catalase Met1-Leu527 Accession # P04040
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

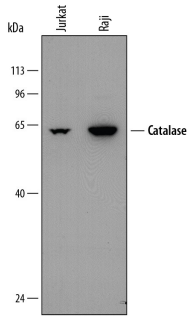
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.5 µg/mL	See Below
Immunocytochemistry	3-25 µg/mL	See Below
Simple Western	5 µg/mL	See Below
Knockout Validated	Catalase is specifically detected in HeLa human cervical epithelial carcinoma parental cell line but is not detectable in Catalase knockout HeLa cell line.	

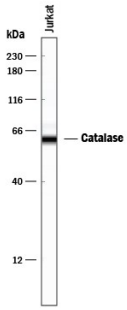
DATA

Western Blot



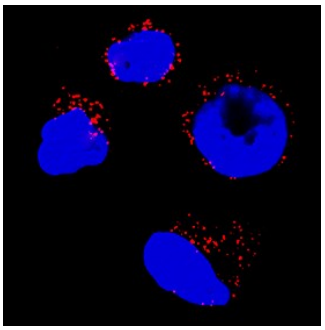
Detection of Human Catalase by Western Blot. Western blot shows lysates of Jurkat human acute T cell leukemia cell line and Raji human Burkitt's lymphoma cell line. PVDF membrane was probed with 0.5 µg/mL of Mouse Anti-Human Catalase Monoclonal Antibody (Catalog # MAB3398) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for Catalase at approximately 64 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Simple Western



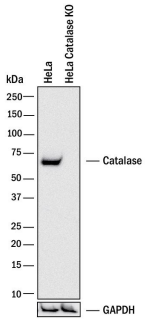
Detection of Human Catalase by Simple Western™. Simple Western lane view shows lysates of Jurkat human acute T cell leukemia cell line, loaded at 0.5 mg/mL. A specific band was detected for Catalase at approximately 61 kDa (as indicated) using 5 µg/mL of Mouse Anti-Human Catalase Monoclonal Antibody (Catalog # MAB3398) . This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

Immunocytochemistry



Catalase in HL-60 Human Cell Line. Catalase was detected in immersion fixed HL-60 human acute promyelocytic leukemia cell line using Mouse Anti-Human Catalase Monoclonal Antibody (Catalog # MAB3398) at 3 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to peroxisomes. View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

Knockout Validated



Western Blot Shows Human Catalase Specificity by Using Knockout Cell Line. Western blot shows lysates of HeLa human cervical epithelial carcinoma parental cell line and Catalase knockout HeLa cell line (KO). PVDF membrane was probed with 0.5 µg/mL of Mouse Anti-Human Catalase Monoclonal Antibody (Catalog # MAB3398) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for Catalase at approximately 64 kDa (as indicated) in the parental HeLa cell line, but is not detectable in knockout HeLa cell line. GAPDH (Catalog # MAB5718) is shown as a loading control. This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

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Human Catalase Antibody

Monoclonal Mouse IgG_1 Clone # 724810

Catalog Number: MAB3398

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Cells have evolved complex mechanisms to maintain redox balance and defend against oxidative stress. Catalase is a tetrameric enzyme comprised of four 60 kDa subunits. Catalase is typically localized in the peroxisome where it functions as an antioxidant, protecting cells from damage due to oxidative stress. Catalase converts reactive oxygen species, such as H_2O_2, into water and O_2. Human Catalase shares 89% homology to mouse and rat Catalase. The cells redox environment can serve as an important signaling switch or trigger to initiate a number of cellular processes, including gene expression, differentiation, proliferation and apoptosis.

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