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Datasheet for 200-301-H63

# Caspase-3 Antibody

## Overview

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| **Description:** | Anti-Caspase-3 (MOUSE) Monoclonal Antibody - 200-301-H63 |
| **Item No.:** | 200-301-H63 |
| **Size:** | 100 µg |
| **Applications:** | FC, IF, IHC, WB |
| **Reactivity:** | Human |
| **Host Species:** | Mouse |

## Product Details

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| **Background:** | Anti-Caspase-3 antibody detects human Caspase-3. Caspases are a family of cysteine proteases that are key mediators of programmed cell death or apoptosis. The precursor form of all caspases is composed of a prodomain, and large and small catalytic subunits. The active forms of caspases are generated by several stimuli including ligand-receptor interactions, growth factor deprivation and inhibitors of cellular functions. All known caspases require cleavage adjacent to aspartates to liberate one large and one small subunit, which associate into a2b2 tetramer to form the active enzyme. Gene for Caspase-3 also known as Yama, CPP32, and apopain codes for a 32-kDa protein. Caspase-3 cleaves the death substrate poly (ADP-ribose) polymerase (PARP) to a specific 85 kDa form observed during apoptosis and is inhibitable by the CrmA protein. Other Caspase-3 substrates include DNA-PK, actin, GAS2, and procaspase-6, etc. Caspase-3 is activated by cleavage events at Asp-28/Ser-29 (between N-terminal pro-domain) and Asp-175/Ser-176 (between large and small subunits) to generate a large subunit of 17-kDa and a small subunit of 12-kDa. Anti-Caapase-3 is ideal for investigators involved in apoptosis, cytokines and growth factor research. |
| **Synonyms:** | Cpp32, Caspase-3 subunit p17, Caspase-3 subunit p12, Apopain, Cysteine protease CPP32 Caspase-3, CASP-3, 3.4.22.56,<br>Apopain, Cysteine protease CPP32, CPP-32, Protein Yama, SREBP cleavage activity 1, SCA-1, Caspase-3 subunit p17, Caspase-3 subunit p12 |
| **Host Species:** | Mouse |
| **Clonality:** | Monoclonal |
| **Clone ID:** | 31A1067 |
| **Format:** | IgG1 |

## Target Details

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| **Gene Name:** | CASP3 |
| **Reactivity:** | Human |
| **Immunogen Type:** | Recombinant Protein |
| **Immunogen:** | Caspase-3 Antibody was produced in mice by repeated immunizations with a full length recombinant Caspase-3 human protein. |
| **Purity/Specificity:** | Anti-Caspase-3 Antibody was purified by Protein G chromatography. A BLAST analysis was used to suggest cross-reactivity with Anti-Caspase-3 from Human, mouse and rat based on 100% homology with the immunizing sequence. Cross-reactivity with Anti-Caspase-3 from other sources has not been determined. |
| **Relevant Links:** | • UniProtKB - P42574<br>• NCBI - NP_004337.2<br>• GeneID - 836 |

## Application Details

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| **Tested Applications:** | FC, IF, IHC, WB |
| **Application Note:** | Anti-Caspase 3 Antibody is tested for use in WB, EM, Flow, ICC/IF, IHC-Fr, and IHC-P. Expect a band approximately 31.5 kDa on specific lysates. The antibody detects both pro Caspase-3(32 kDa) and the large subunit of the active/cleaved form (14-21 kDa) of Caspase-3. The large subunit of the cleaved form may appear as one or two or even as a stack of bands depending on the presence or absence of the Caspase-3 pro-domain. Specific conditions for reactivity should be optimized by the end user. |
| **Assay Dilutions:** | All assays should be optimized by the user. Recommended dilutions (if any) may be listed below. |
| **IHC:** | 5 µg/mL |
| **WB:** | 1-5 µg/mL |

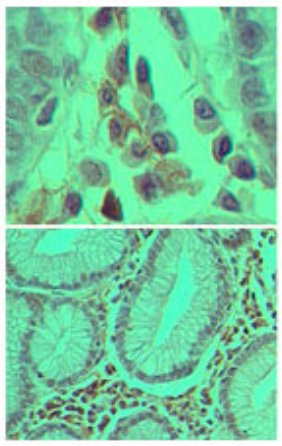
## Formulation

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| **Physical State:** | Liquid |
| **Concentration:** | 1.0 mg/mL by UV absorbance at 280 nm |
| **Buffer:** | 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2 |
| **Preservative:** | 0.02% (w/v) Sodium Azide |

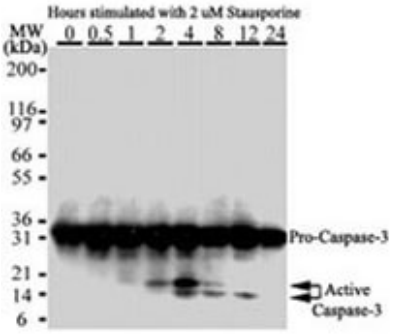
## Shipping & Handling

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| **Shipping Condition:** | Dry Ice |
| **Storage Condition:** | Store Caspase 3 antibody at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use. |
| **Expiration:** | Expiration date is one (1) year from date of receipt. |

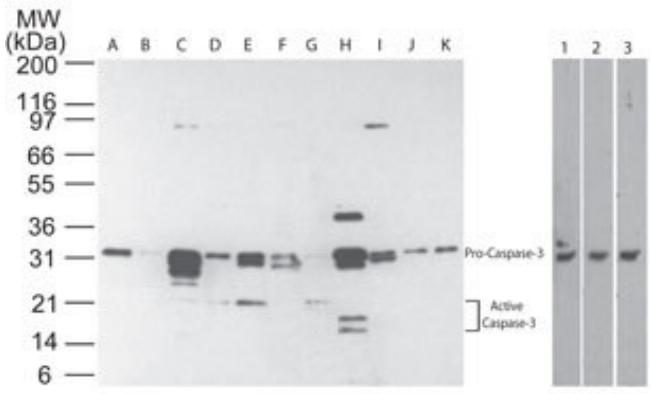
## Images



**Immunohistochemistry**
Immunohistochemistry of mouse Anti-Caspase-3 antibody. Tissue: human stomach (top image/high magnification). Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary antibody: Caspase-3 at 5 µg/ml for 1 h at RT. Secondary antibody: Peroxidase mouse secondary antibody at 1:10,000 for 45 min at RT. Localization: Caspase-3 is cytoplasmic in some cells and nuclear in others. Caspase-3 in the nucleus is considered to be an indication of active caspase 3. In most cell types and model systems, cells with active caspase-3 are undergoing apoptosis. Staining: Caspase-3 has a DAB chromogen and Hematoxylin counterstain.




**Western Blot**
Western Blot of Mouse Anti-Caspase-3 antibody. Lane 1-8: HeLa cell lysates. Treated with 2µM stauroporine for 0, 0.5, 1, 2, 4, 8, 12, 24 hours respectively. Load: 20 µg per lane. Primary antibody: Caspase-3 antibody treated with 2 µg/ml for overnight at 4°C. Secondary antibody: IRDye800™ mouse secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: 31.6 kDa for Pro-Caspase-1. Other band(s): 14-21kDa active Caspase 3. Cleavage fragments.




**Western Blot**

Western Blot of Mouse Anti-Caspase-3 antibody. Lane A: Human Brain. Lane B: Human Heart. C: Human Intestine. Lane D: Human Kidney. Lane E: Human Liver. Lane F: Human Lung. Lane G: Human Muscle. Lane H: Human Stomach. Lane I: Human Spleen. Lane J: Human Ovary. Lane K: Human Testis. Lane 1: human heart lysate. Lane 2: mouse heart lysate. Lane 3: rat heart lysate. Primary antibody: Caspase-3 antibody at 5 µg/ml for overnight at 4°C. Secondary antibody: IRDye800™ mouse secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: 31.6 kDa for Pro-Caspase-3. Other band(s): 14-21kDa active Caspase 3.

## Disclaimer

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