

Product datasheet for **TA336455**

Caspase 3 (CASP3) Mouse Monoclonal Antibody [Clone ID: 31A1067]

Product data:

Product Type:	Primary Antibodies
Clone Name:	31A1067
Applications:	CyTOF-ready, Electron Microscopy, FC, ICC/IF, IHC, Immunoblotting, Simple Western, WB
Recommended Dilution:	Immunohistochemistry: 1:10 - 1:500, Simple Western: 1:50, Western Blot: 1 - 5 ug/ml, Knockout Validated, Knockdown Validated, Immunohistochemistry-Frozen: 1:10 - 1:500, Immunohistochemistry-Paraffin: 1:10 - 1:500, Immunocytochemistry/ Immunofluorescence, Flow Cytometry, Electron Microscopy, Immunoblotting, Hematoxylin and Eosin Stain, Immunohistochemistry Free-Floating, CyTOF-ready
Reactivity:	Human, Mouse, Rat
Host:	Mouse
Isotype:	IgG1, kappa
Clonality:	Monoclonal
Immunogen:	Full-length recombinant human caspase-3 protein was used as immunogen. The antibody recognizes an epitope in the large domain subunit of Caspase-3. As such it will recognize pro Caspase-3 and the large subunit cleavage fragment.
Formulation:	PBS containing 0.05% BSA, 0.05% Sodium Azide. Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Concentration:	lot specific
Purification:	Protein G purified
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	caspase 3
Database Link:	NP_116786 Entrez Gene 12367 Mouse Entrez Gene 25402 Rat Entrez Gene 836 Human P42574



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Background:

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.

Synonyms:

CPP32; CPP32B; SCA-1

Note:

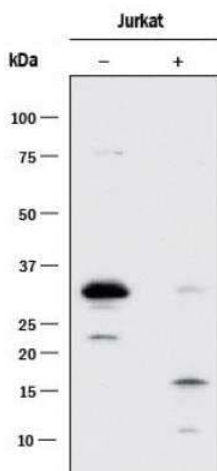
Useful in Immunohistochemistry-Frozen See Zhang et al., and Immunohistochemistry-Paraffin See Lee et al. Use in Immunocytochemistry/Immunofluorescence was reported in the scientific literature (PMID: 23840553).

Protein Families:

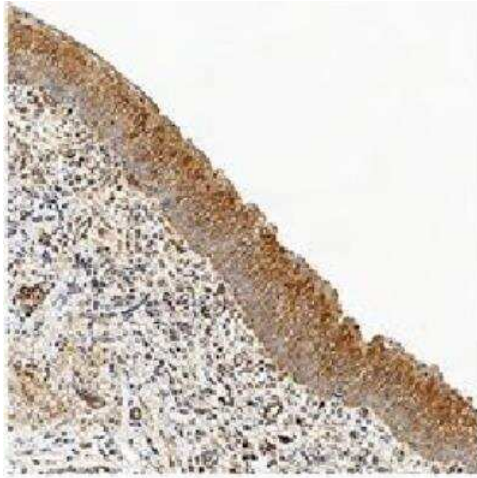
Druggable Genome, ES Cell Differentiation/IPS, Protease

Protein Pathways:

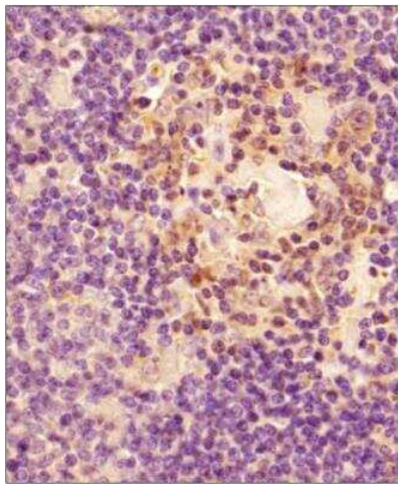
Alzheimer's disease, Amyotrophic lateral sclerosis (ALS), Apoptosis, Colorectal cancer, Epithelial cell signaling in Helicobacter pylori infection, Huntington's disease, MAPK signaling pathway, Natural killer cell mediated cytotoxicity, p53 signaling pathway, Parkinson's disease, Pathways in cancer, Viral myocarditis

Product images:

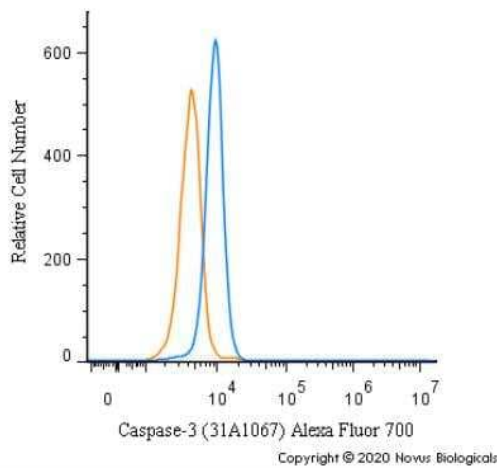
Lysates of Jurkat human acute T cell leukemia cell line untreated (-) or treated (+) with VP-16. PVDF membrane was probed with 0.1 ug/mL of mouse monoclonal Caspase-3 Antibody (31A1067) - (Pro and Active) (TA336455, Novus Biologicals) followed by 1:2000 dilution donkey anti-mouse IgG.



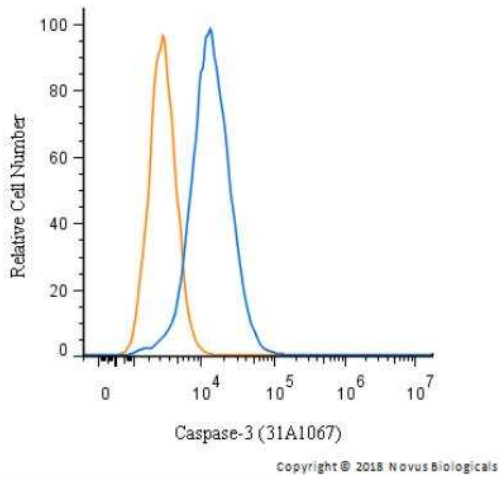
Caspase-3 was detected in immersion fixed paraffin-embedded sections of human bladder tissue using 1:50 dilution of mouse aCaspase-3 Antibody (31A1067) - (Pro and Active) (TA336455), for 1 hour at room temperature followed by anti-mouse IgG VisUCyte HRP polymer(VC001). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue).



Tissue section of human spleen using 1:200 dilution of Caspase-3 antibody (clone 31A1067). The staining was developed with HRP labeled anti-mouse IgG secondary antibody and DAB reagent, and nuclei of cells were counter-stained with hematoxylin. This Caspase 3 antibody generated primarily a specific cytoplasmic staining in a subset of splenocytes with some nuclear signal in a few cells.



An intracellular stain was performed on NIH3T3 cells with Caspase-3 Antibody (31A1067) - (Pro and Active) Antibody TA336455AF700 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 10 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Alexa Fluor 700.



An intracellular stain was performed on HeLa cells with Caspase-3 Antibody (31A1067) - (Pro and Active) TA336455 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 5 ug/mL for 30 minutes at room temperature, followed by mouse F(ab)2 IgG (H+L) APC-conjugated secondary antibody (F0101B, R&D Systems).

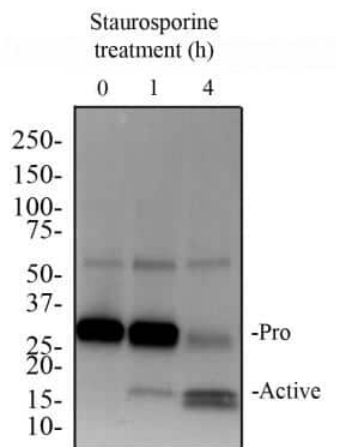


Image of Caspase-3 Antibody (31A1067) - (Pro and Active). Whole cell protein from Jurkat cells treated with and without 2 uM staurosporine as indicated was separated on a 4-15% gel by SDS-PAGE, transferred to 0.2 um PVDF membrane and blocked in 5% non-fat milk in TBST. The membrane was probed with 5 ug/ml anti-Caspase 3 in 1% milk, and detected with an anti-mouse HRP secondary antibody using a Femto sensitivity chemiluminescence reagent. Note the detection of both pro-caspase 3 at 35 kDa and the cleaved active caspase 3 at 15-17 kDa.



Simple Western lane view shows a specific band for Caspase-3 Antibody (31A1067) - (Pro and Active) in 0.1 mg/ml of HeLa lysate. This experiment was performed under reducing conditions using the 12-230kDa separation system.