

# Product Datasheet

## Caspase-3 Antibody (31A1067) - (Pro and Active) - BSA Free NB100-56708

Unit Size: 0.1 mg

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

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**NB100-56708**

Caspase-3 Antibody (31A1067) - (Pro and Active) - BSA Free

<b>Product Information</b>	
<b>Unit Size</b>	0.1 mg
<b>Concentration</b>	1 mg/ml
<b>Storage</b>	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
<b>Clonality</b>	Monoclonal
<b>Clone</b>	31A1067
<b>Preservative</b>	0.05% Sodium Azide
<b>Isotype</b>	IgG1 Kappa
<b>Purity</b>	Protein G purified
<b>Buffer</b>	PBS
<b>Target Molecular Weight</b>	31.7 kDa
<b>Product Description</b>	
<b>Host</b>	Mouse
<b>Gene ID</b>	836
<b>Gene Symbol</b>	CASP3
<b>Species</b>	Human, Mouse, Rat, Porcine, Chicken, Chinese Hamster, Mammal
<b>Reactivity Notes</b>	Chicken reactivity reported in scientific literature (PMID: 30298003).
<b>Specificity/Sensitivity</b>	The antibody detects both pro Caspase-3 (~32 kDa) and the large subunit of the active/cleaved form (~14-21 kDa) of Caspase-3.
<b>Immunogen</b>	This Caspase-3 Antibody (31A1067) - (Pro and Active) was developed against full-length recombinant human caspase-3 protein.
<b>Product Application Details</b>	
<b>Applications</b>	Western Blot, Simple Western, Electron Microscopy, Flow Cytometry, Hematoxylin and Eosin Stain, Immunoblotting, Immunocytochemistry/Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin, CyTOF-ready, Immunohistochemistry Free-Floating, Knockdown Validated, Knockout Validated
<b>Recommended Dilutions</b>	Western Blot 1 - 5 ug/ml, Simple Western 1:50, Flow Cytometry reported in scientific literature (PMID 27429862), Immunohistochemistry 1:10 - 1:500, Immunocytochemistry/ Immunofluorescence reported in scientific literature (PMID 23840553), Immunohistochemistry-Paraffin 1:10 - 1:500. Use reported in scientific literature (PMID 28500555), Immunohistochemistry-Frozen 1:10 - 1:500. Use reported by customer review, Immunoblotting reported in scientific literature (PMID 28500555), Hematoxylin and Eosin Stain reported in scientific literature (PMID 28186963), Electron Microscopy reported in scientific literature (PMID 27450722), Immunohistochemistry Free-Floating reported in scientific literature (PMID 31771656), CyTOF-ready, Knockout Validated, Knockdown Validated reported in scientific literature (PMID 32867814)

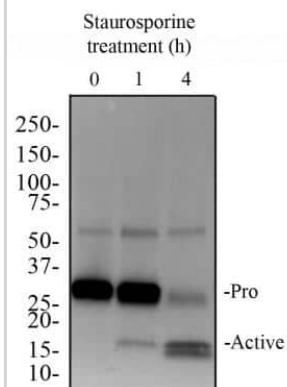
**Application Notes**

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. It is highly recommended that a maximum sensitivity ECL substrate (Femto sensitive) be used for efficient detection of this antibody in Western blot applications. In Simple Western only 10 - 15 ul of the recommended dilution is used per data point.

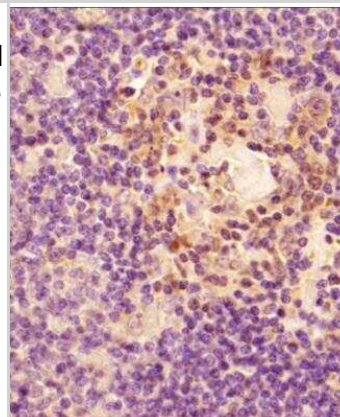
See [Simple Western Antibody Database](#) for Simple Western validation: Tested in Ovaries, separated by Size, antibody dilution of 1:200, apparent MW was 38,32,23 kDa. Separated by Size-Wes, Sally Sue/Peggy Sue. This antibody is CyTOF ready.

**Images**

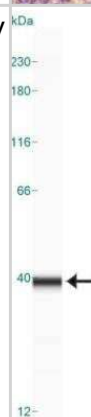
Image of Caspase-3 Antibody (31A1067) - (Pro and Active). Whole cell protein from Jurkat cells treated with and without 2 uM staurosporine as indicated was separated on a 4-15% gel by SDS-PAGE, transferred to 0.2 um PVDF membrane and blocked in 5% non-fat milk in TBST. The membrane was probed with 5 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.



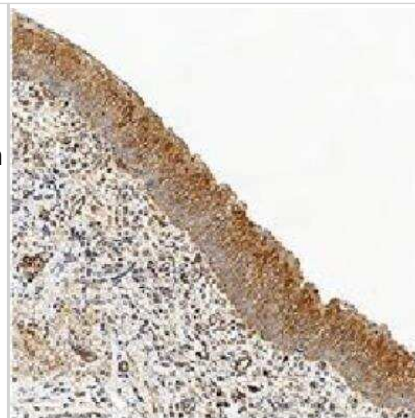
Tissue section of human spleen using 1:200 dilution of Caspase-3 antibody (clone 31A1067). The staining was developed with HRP labeled anti-mouse IgG secondary antibody and DAB reagent, and nuclei of cells were counter-stained with hematoxylin. This Caspase 3 antibody generated primarily a specific cytoplasmic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



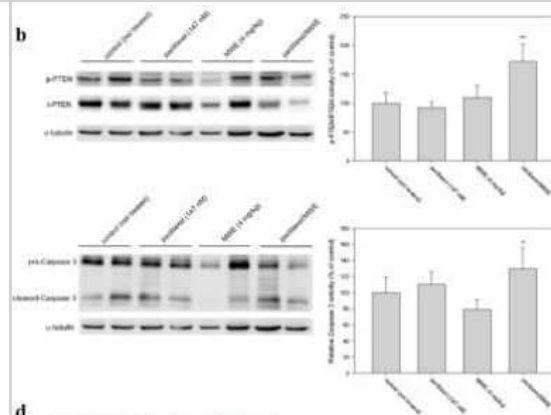
Simple Western lane view shows a specific band for Caspase-3 Antibody (31A1067) - (Pro and Active) in 0.1 mg/ml of HeLa lysate. This experiment was performed under reducing conditions using the 12-230kDa separation system.



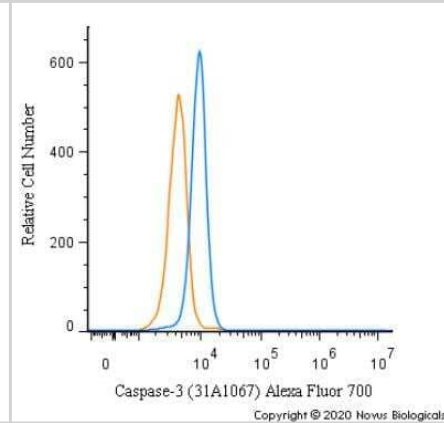
Caspase-3 was detected in immersion fixed paraffin-embedded sections of human bladder tissue using 1:50 dilution of mouse aCaspase-3 Antibody (31A1067) - (Pro and Active) (NB100-56708), for 1 hour at room temperature followed by anti-mouse IgG VisUCyte HRP polymer (VC001). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue).



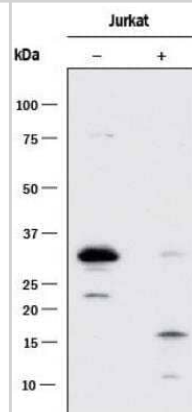
Paclitaxel in combination with MWE retarded tumor growth in a human bladder carcinoma TSGH 8301 xenograft model. The levels of total (t-PTEN) and phospho-PTEN (p-PTEN) and Caspase 3 in the tumor specimens were determined by Western blotting and then quantified using beta-actin as the protein loading control; the results are expressed as a percentage of the control. Image collected and cropped by CiteAb from the following publication (<https://www.nature.com/articles/srep20417>), licensed under a CC-BY license.



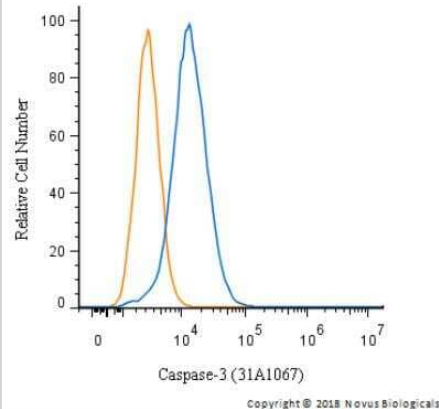
An intracellular stain was performed on NIH3T3 cells with Caspase-3 Antibody (31A1067) - (Pro and Active) Antibody NB100-56708AF700 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 10 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Alexa Fluor 700.



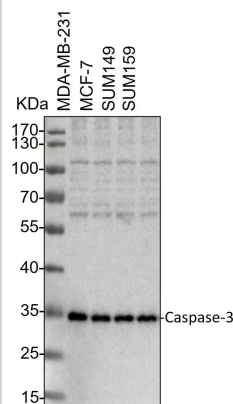
Lysates of Jurkat human acute T cell leukemia cell line untreated (-) or treated (+) with VP-16. PVDF membrane was probed with 0.1 ug/mL of mouse monoclonal Caspase-3 Antibody (31A1067) - (Pro and Active) (NB100-56708, Novus Biologicals) followed by 1:2000 dilution donkey anti-mouse IgG.



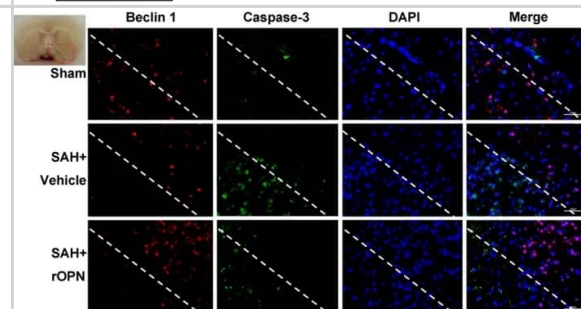
An intracellular stain was performed on HeLa cells with Caspase-3 Antibody (31A1067) - (Pro and Active) NB100-56708 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 5 ug/mL for 30 minutes at room temperature, followed by mouse F(ab)2 IgG (H+L) APC-conjugated secondary antibody (F0101B, R&D Systems).



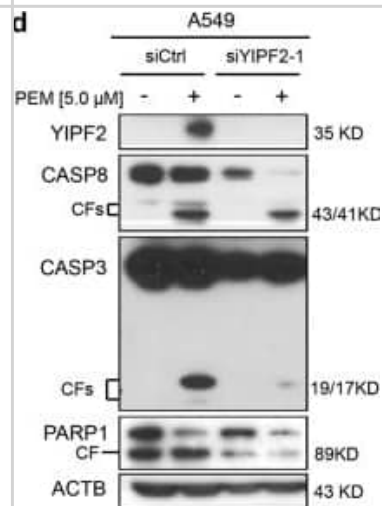
Western Blot: Mouse Monoclonal Caspase-3 Antibody (31A1067) - (Pro and Active) [IMGGENEX: IMG-144A] [NB100-56708] - Whole cell lysates from MDA-MB-231, MCF-7, SUM149 and SUM159 cells were loaded with 50 ug/lane. 10% SDS-PAGE. Caspase-3 Antibody (NB100-56708) was used for primary antibody: 1:2000, 4h, overnight. Image from a verified customer review.



Immunocytochemistry/ Immunofluorescence: Caspase-3 Antibody (31A1067) - (Pro and Active) - BSA Free [NB100-56708] - rOPN administration influenced the interaction & balance between Beclin 1 & Caspase-3 at 24 h after SAH. Double immunofluorescence staining of Caspase-3 & Beclin 1 in Sham group, SAH + Vehicle group & SAH + rOPN group at 24 h after SAH induction. Sample size is 9, n = 3 per group. Localization of Caspase-3 can be cytoplasmic & nuclear. Staining in the nucleus is considered to be an indication of active Caspase-3. The dashed lines & the red box on brain slice images indicate the locations observed. Vehicle, phosphate-buffered saline; Scale bar = 50 μm Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/31436915>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

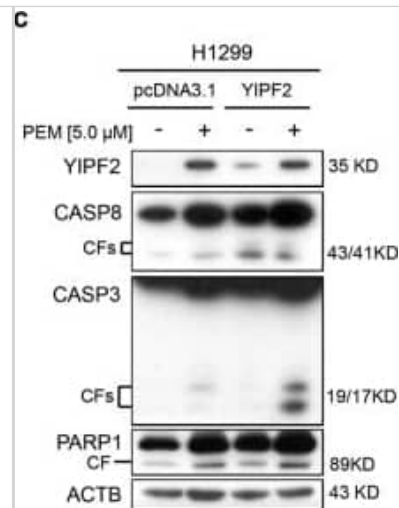


Western Blot: Caspase-3 Antibody (31A1067) - (Pro and Active) - BSA Free [NB100-56708] - PEM induces YIPF2 upregulation & apoptosis in NSCLC cells. a, b H1792 (a) & H1299 (b) NSCLC cells were treated with PEM at various concentrations (0–10.0 μM) for 36 h. Cell lysates were analyzed by Western blotting with antibodies against YIPF2 & ACTB. c Overexpression of YIPF2 in H1299 cells in the presence or absence of PEM at 5.0 μM for 36 h. Cell lysates were analyzed by Western blotting with antibodies against YIPF2, CASP8, CASP3, PARP1 & ACTB. d Knockdown of YIPF2 expression by YIPF2-1 siRNA in A549 NSCLC cells in the presence or absence of PEM at 5.0 μM for 36 h. Cell lysates were analyzed by Western blotting with antibodies against YIPF2, CASP8, CASP3, PARP1 & ACTB. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/32303681>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

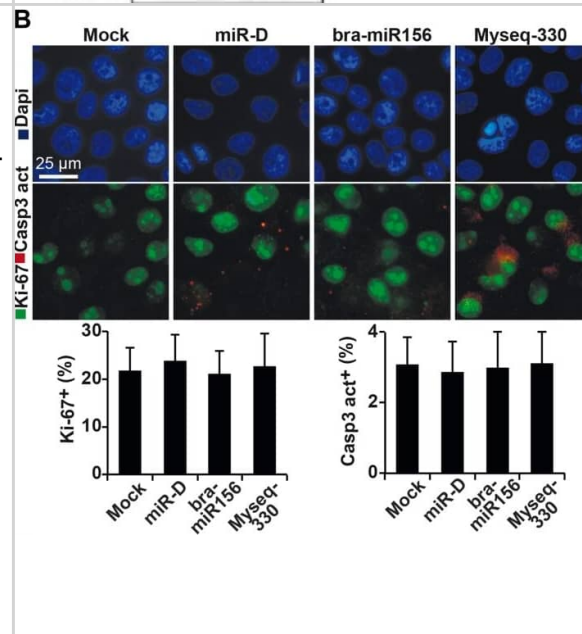




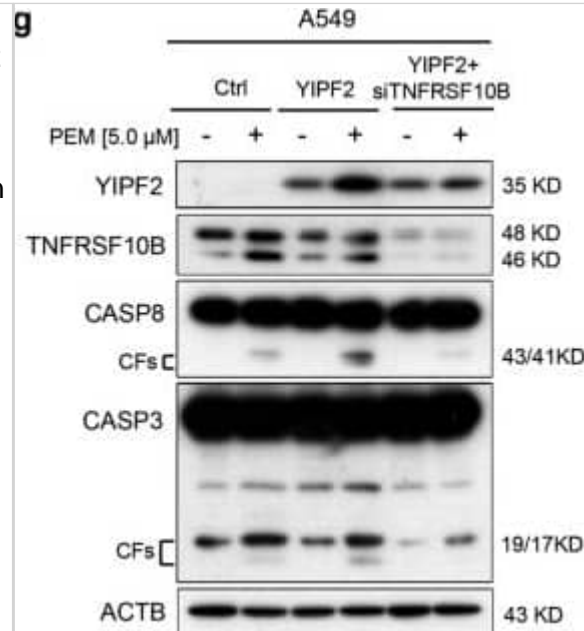
Western Blot: Caspase-3 Antibody (31A1067) - (Pro and Active) - BSA Free [NB100-56708] - PEM induces YIPF2 upregulation & apoptosis in NSCLC cells. a, b H1792 (a) & H1299 (b) NSCLC cells were treated with PEM at various concentrations (0–10.0  $\mu$ M) for 36 h. Cell lysates were analyzed by Western blotting with antibodies against YIPF2 & ACTB. c Overexpression of YIPF2 in H1299 cells in the presence or absence of PEM at 5.0  $\mu$ M for 36 h. Cell lysates were analyzed by Western blotting with antibodies against YIPF2, CASP8, CASP3, PARP1 & ACTB. d Knockdown of YIPF2 expression by YIPF2-1 siRNA in A549 NSCLC cells in the presence or absence of PEM at 5.0  $\mu$ M for 36 h. Cell lysates were analyzed by Western blotting with antibodies against YIPF2, CASP8, CASP3, PARP1 & ACTB. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/32303681>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



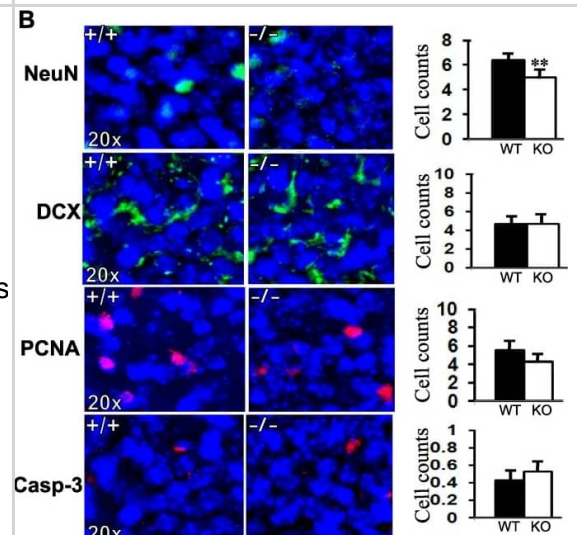
Immunocytochemistry/ Immunofluorescence: Caspase-3 Antibody (31A1067) - (Pro and Active) - BSA Free [NB100-56708] - Lipofection of top broccoletti-miR candidates does not influence basal & induced apoptosis. (A) BxPc-3 & Bx-Gem cells were transfected as described in Figure 3. Seventy-two hours later, the cells were stained with Annexin V-PE & 7-AAD, followed by FACS analysis. The percentage of Annexin V- & 7-AAD-positive cells is shown. (B) Lipofected BxPc-3 & Bx-Gem cells were stained with an antibody specific for the proliferation marker Ki-67 (green) or the apoptosis marker cleaved fragment of caspase-3 (red), which indicates apoptosis. Representative images at  $\times 100$  magnification are shown. The percentage of Ki-67- or caspase-3-positive cells was counted in 18 visual fields, & the means  $\pm$  SD are shown in the diagram below. (C) BxPc-3 & Bx-Gem were lipofected as described above, & at 24 h later, the cells were treated with gemcitabine (10 nM) or were left untreated. Ninety-six hours after gemcitabine treatment, viability was determined by MTT assay. The data are presented as the means  $\pm$  SD (\*\*P < 0.01). Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/32292571>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



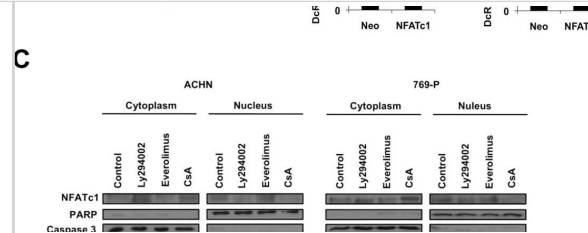
Western Blot: Caspase-3 Antibody (31A1067) - (Pro and Active) - BSA Free [NB100-56708] - PEM induces apoptosis of NSCLC cells via YIPF2-TNFRSF10B axis. a, b A549 (a) & H1792 (b) cells were treated with PEM at 5.0  $\mu$ M for the indicated times (0, 6, 12, 24, 36 & 48 h). Cell lysates were analyzed by Western blotting with antibodies against YIPF2, TNFRSF10B & ACTB. c A549 cells were treated with doxorubicin (DOX) at various concentrations (0–2.0  $\mu$ M) for 18 h. Cell lysates were analyzed by Western blotting with antibodies against YIPF2, TNFRSF10B & ACTB. d Overexpression of YIPF2 in H1792 & H1299 cells in the presence or absence of PEM at 5.0  $\mu$ M for 36 h. Cell lysates were analyzed by Western blotting with antibodies against YIPF2, TNFRSF10B & ACTB. e Knockdown of YIPF2 expression by YIPF2-1 siRNA in A549 & H1792 cells in the presence or absence of PEM at 5.0  $\mu$ M for 36 h. Cell lysates were analyzed by Western blotting with antibodies against YIPF2, TNFRSF10B & ACTB. f Overexpression of YIPF2 in H1299 cells (left) or Knockdown of YIPF2 expression by YIPF2-1 siRNA in H1792 cells (right) in the presence or absence of PEM at 5.0  $\mu$ M for 36 h. Cell lysates were analyzed by Western blotting with antibodies against YIPF2, TNFRSF10A & ACTB. g Three A549 cell lines (Ctrl, YIPF2, YIPF2 + siTNFRSF10B) in the presence or absence of PEM at 5.0  $\mu$ M for 36 h. Cell lysates were analyzed by Western blotting with antibodies against YIPF2, TNFRSF10B, CASP8, CASP3 & ACTB. h Three H1299 cell lines (Ctrl, siYIPF2-1, siYIPF2-1 + TNFRSF10B (short isoform)) in the presence or absence of PEM at 5.0  $\mu$ M for 36 h. Cell lysates were analyzed by Western blotting with antibodies against YIPF2, TNFRSF10B, CASP8, CASP3 & ACTB. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/32303681>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



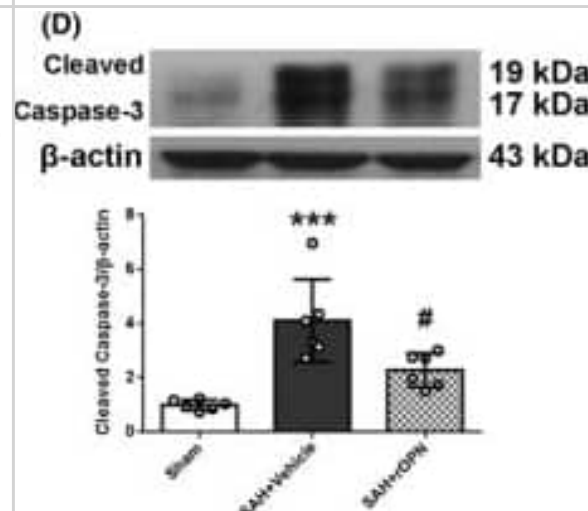
Immunocytochemistry/ Immunofluorescence: Caspase-3 Antibody (31A1067) - (Pro and Active) - BSA Free [NB100-56708] - Cell numbers positively stained for NeuN, DCX, PCNA & caspase-3 in the subgranular region of the dentate gyrus in WT & RanBP9<sup>-/-</sup> (KO) mice. (A), DAPI-stained brain sections to show the highlighted subgranular zone within the dentate gyrus region of the hippocampus used for cell counts shown in B. (B), Representative brain sections stained with anti-NeuN, anti-DCX, anti-PCNA, anti-caspase-3 & counter stained with DAPI. Cell counting revealed significantly decreased numbers of NeuN positive cells in RanBP9<sup>-/-</sup> (KO) brains (22%) compared to WT controls. However DCX, PCNA & caspase positive cell numbers were not significantly altered. In each group, n=3, data presented as mean  $\pm$  SEM. \*\*, p<0.01 by Student's t-test. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/23840553>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



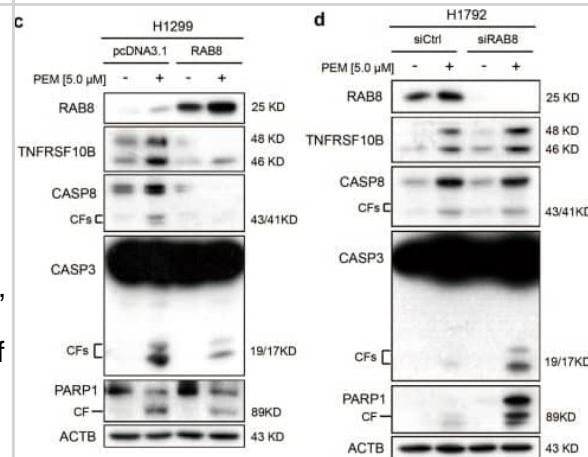
Western Blot: Caspase-3 Antibody (31A1067) - (Pro and Active) - BSA Free [NB100-56708] - NFATc1 regulates DcR3 expression at a transcriptional level. (A,B) Immunoblot analysis of whole-cell lysates & quantitative real-time-PCR assaying relative DcR3 mRNA expression of ACHN & 769-P cells 24 h after treatment with cyclosporin A (CsA, 25  $\mu$ M) or Tacrolimus (FK-506, 50  $\mu$ M) (A); 48 h post transfection with NFATc1 or an empty vector control (neo) (B). Expression data were normalized to internal 18S rRNA expression (mean  $\pm$  SEM; n=3; \* $p$ <0.05, \*\* $p$ <0.01, \*\*\* $p$ <0.001; T-test). (C) Immunoblot analysis of cytoplasmic & nuclear fractions of ACHN & 769-P cells after treatment with LY294002 (50  $\mu$ M), Everolimus (1  $\mu$ M), or Cyclosporine A (25  $\mu$ M). (D) Relative NFATc1–luciferase reporter activity of ACHN & 769-P cells 24 h post transfection with myrAkt or an empty vector control (neo) (mean  $\pm$  SEM; n=3; \* $p$ <0.05, \*\* $p$ <0.01; T-test). Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/24107265>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: Caspase-3 Antibody (31A1067) - (Pro and Active) - BSA Free [NB100-56708] - rOPN administration elevated the expression of autophagy-related proteins while suppressing apoptosis in rat brain at 24 h after SAH. The effects of rOPN on expression levels of (A) Beclin 1, mean  $\pm$  SD is 1.016  $\pm$  0.2262 in Sham group, 2.874  $\pm$  1.147 in SAH + Vehicle group, 4.963  $\pm$  2.05 in SAH + rOPN group, F = 15.52, (B) ATG5, mean  $\pm$  SD is 0.8908  $\pm$  0.2545 in Sham group, 2.332  $\pm$  0.6431 in SAH + Vehicle group, 4.364  $\pm$  1.309 in SAH + rOPN group, F = 25.02, (C) LC3, mean  $\pm$  SD is 1  $\pm$  0.1845 in Sham group, 1.755  $\pm$  0.3017 in SAH + Vehicle group, 2.7  $\pm$  0.7957 in SAH + rOPN group, F = 17.23, (D) Cleaved Caspase-3, mean  $\pm$  SD is 1.008  $\pm$  0.186 in Sham group, 4.112  $\pm$  1.528 in SAH + Vehicle group, 2.291  $\pm$  0.6268 in SAH + rOPN group, F = 15.86, (E) Bax, mean  $\pm$  SD is 1.006  $\pm$  0.321 in Sham group, 37.47  $\pm$  10.86 in SAH + Vehicle group, 23.83  $\pm$  8.143 in SAH + rOPN group, F = 33.13, (F) Bcl-2, mean  $\pm$  SD is 1.005  $\pm$  0.2736 in Sham group, 0.2309  $\pm$  0.1257 in SAH + Vehicle group, 0.7843  $\pm$  0.2278 in SAH + rOPN group, F = 20.1, in the left hemisphere of rat brain at 24 h after SAH. Sample size is 18, n = 6 per group. Data were presented as mean  $\pm$  SD. \* $P$  < .05, \*\*\* $P$  < .001 vs Sham group; # $P$  < .05, ### $P$  < .01 vs SAH + Vehicle group. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/31436915>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

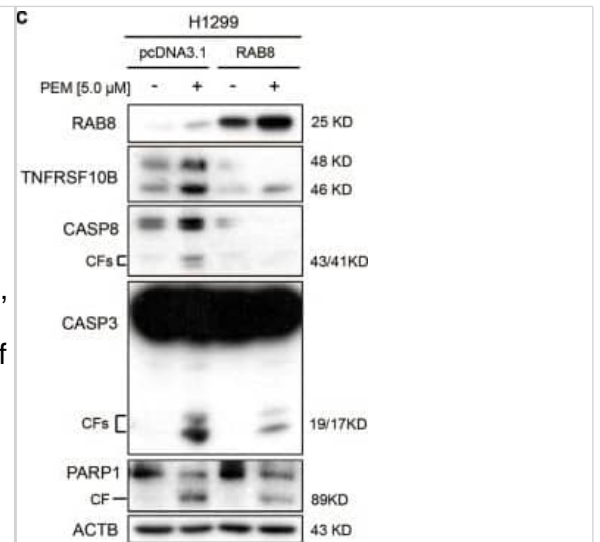


Western Blot: Caspase-3 Antibody (31A1067) - (Pro and Active) - BSA Free [NB100-56708] - RAB8 suppresses PEM-induced apoptosis of NSCLC cells by promoting the removing of TNFRSF10B from plasma membrane to cytoplasm. a, b Knockdown of RAB8 expression by RAB8 siRNA in H1792 (a) & A549 (b) cells in the presence or absence of PEM at 5.0  $\mu$ M for 36 h. The surface expression of TNFRSF10B was confirmed by flow cytometry analyses. c Overexpression of RAB8 in H1299 cells in the presence or absence of PEM at 5.0  $\mu$ M for 36 h. Cell lysates were analyzed by Western blotting with antibodies against RAB8, TNFRSF10B, CASP8, CASP3, PARP1 & ACTB. d Knockdown of RAB8 expression by RAB8 siRNA in H1792 cells in the presence or absence of PEM at 5.0  $\mu$ M for 36 h. Cell lysates were analyzed by Western blotting with antibodies against RAB8, TNFRSF10B, CASP8, CASP3, PARP1 & ACTB. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/32303681>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.





Western Blot: Caspase-3 Antibody (31A1067) - (Pro and Active) - BSA Free [NB100-56708] - RAB8 suppresses PEM-induced apoptosis of NSCLC cells by promoting the removing of TNFRSF10B from plasma membrane to cytoplasm. a, b Knockdown of RAB8 expression by RAB8 siRNA in H1792 (a) & A549 (b) cells in the presence or absence of PEM at 5.0  $\mu$ M for 36 h. The surface expression of TNFRSF10B was confirmed by flow cytometry analyses. c Overexpression of RAB8 in H1299 cells in the presence or absence of PEM at 5.0  $\mu$ M for 36 h. Cell lysates were analyzed by Western blotting with antibodies against RAB8, TNFRSF10B, CASP8, CASP3, PARP1 & ACTB. d Knockdown of RAB8 expression by RAB8 siRNA in H1792 cells in the presence or absence of PEM at 5.0  $\mu$ M for 36 h. Cell lysates were analyzed by Western blotting with antibodies against RAB8, TNFRSF10B, CASP8, CASP3, PARP1 & ACTB. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/32303681>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



## Publications

DG Brownfield, AD de Arce, E Ghelfi, A Gillich, TJ Desai, MA Krasnow Alveolar cell fate selection and lifelong maintenance of AT2 cells by FGF signaling Nature Communications, 2022-11-21;13(1):7137. 2022-11-21 [PMID: 36414616]

Jäderholm CM, Messer LC., et Al. Expanding on the Solutions to Reduce Neonatal Intensive Care Unit Morbidity and Mortality for Extremely Premature Infants-Looking Out the Hospital Window and Into the Neighborhoods JAMA Netw Open 2023-05-15 [PMID: 37166802]

Sethy B, Upadhyay R, Narwanti I et al. Novel dual inhibitor targeting CDC25 and HDAC for treating triple-negative breast cancer. Apoptosis : an international journal on programmed cell death 2024-10-12 [PMID: 39395083]

Chiang YC, Leu WJ, Chen YC et al. Mechanistic study of dual-function inhibitors targeting topoisomerase II and Rad51-mediated DNA repair pathway against castration-resistant prostate cancer The Prostate 2023-08-15 [PMID: 37583103]

Gui-Feng Su, Ze-Xiu Huang, Deng-Liang Huang, Peng-Xiao Chen, Yao Wang, Yi-Fei Wang Cepharanthine hydrochloride inhibits the Wnt/ $\beta$ -catenin/Hedgehog signaling axis in liver cancer Oncology Reports 2022-04-01 [PMID: 35211762]

Ning Mu, Yu Wang, Xiaopeng Li, Zhiyuan Du, Yingdi Wu, Min Su, Yingying Wang, Xiaoyang Sun, Ling Su, Xiangguo Liu Crotonylated BEX2 interacts with NDP52 and enhances mitophagy to modulate chemotherapeutic agent-induced apoptosis in non-small-cell lung cancer cells Cell Death & Disease 2023-09-30 [PMID: 37777549]

Yan Huo, Abudurehman Mijiti, Ruonan Cai, Zhaohua Gao, Maierpu Aini, Abudukadier Mijiti, Zhaoling Wang, Rui Qie Scutellarin alleviates type 2 diabetes (HFD/low dose STZ)-induced cardiac injury through modulation of oxidative stress, inflammation, apoptosis and fibrosis in mice. Human & experimental toxicology 2022-03-07 [PMID: 34610774]

Han HJ, Sivaraman A, Kim M et al. HIF-1 $\alpha$  inhibition by MO-2097, a novel chiral-free benzofuran targeting hnRNPA2B1 Journal of advanced research 2023-11-15 [PMID: 37977260] (WB, Human)

Büyükerkmen E, Atay E, Firat F et al. Effect of sugammadex administration on neural tube development in 48-h chick embryos Microscopy research and technique 2023-11-07 [PMID: 37933747] (ICC/IF, Chicken)

Tabanifar B, Moorthy A, Tsai HH et al. JNK mediates cell death by promoting the ubiquitination of the apurinic/aprimidinic endonuclease APE1 Cell reports 2023-09-12 [PMID: 37703179] (WB, Human)

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