Product Datasheet

beta-Actin Antibody - BSA Free
NB600-505

Unit Size: 0.1 mg

Store at -20C. Avoid freeze-thaw cycles.

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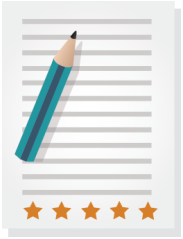
Updated 2/21/2025 v.20.1



NB600-505

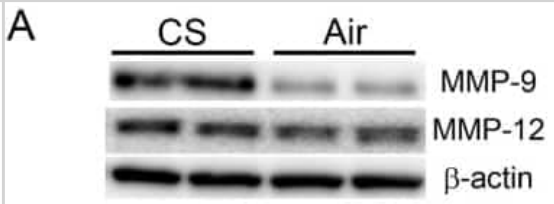
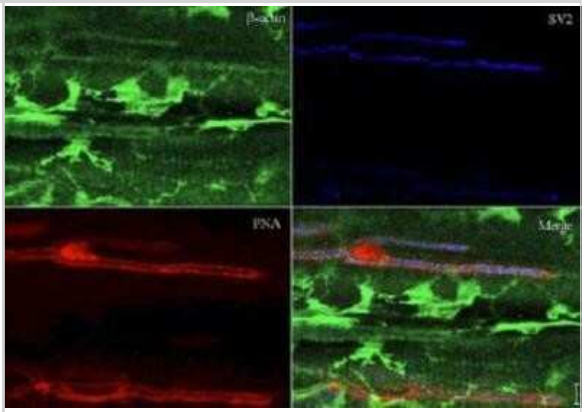
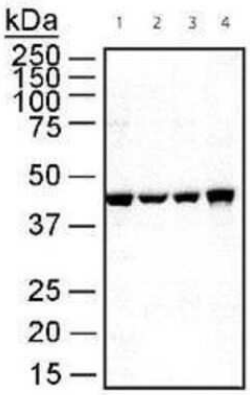
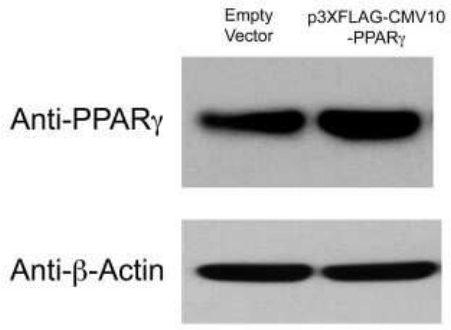
beta-Actin Antibody - BSA Free

Product Information	
Unit Size	0.1 mg
Concentration	Please see the vial label for concentration. If unlisted please contact technical services.
Storage	Store at -20C. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.01% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2

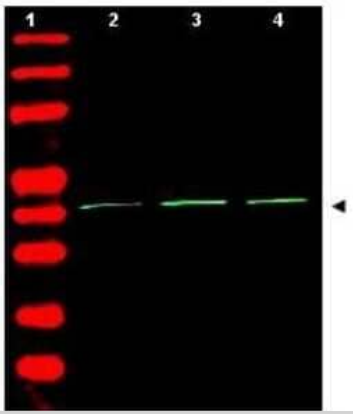
Product Description	
Description	Store this antibody at -20C prior to opening. Aliquot contents and freeze at -20C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4C as an undiluted liquid. Dilute only prior to immediate use.
Host	Rabbit
Gene ID	60
Gene Symbol	ACTB
Species	Human, Mouse, Rat, Amphibian
Reactivity Notes	Lithobates (Leopard frog) beta-Actin Loading Control Antibody is expected to cross-react with a wide range of species due to sequence homology. A BLAST analysis was used to suggest that this antibody would react with beta Actin from a wide range of organisms, including most vertebrates and some yeast
Immunogen	beta-Actin Antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to C-Terminal region near amino acids 350-375 of Human beta Actin. (Uniprot: P60709)

Product Application Details	
Applications	Western Blot, ELISA, Electron Microscopy, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin
Recommended Dilutions	Western Blot 1:1000-1:4000, ELISA 1:10000-1:40000, Immunohistochemistry 1:10-1:500, Immunocytochemistry/ Immunofluorescence 1:500-1:2000, Immunohistochemistry-Paraffin 1:50 - 1:200, Electron Microscopy
Application Notes	This product has been tested for use in ELISA, immunofluorescence, and western blot. Specific conditions for reactivity should be optimized by the end user. Beta actin present in fibroblast connective tissue stains very brightly. Beta actin present in neuromuscular junctions also stains. Paraformaldehyde fixation yields brighter staining than formalin or methanol fixation. Expect a band at ~42 kDa in size corresponding to beta actin by western blotting in the appropriate cell lysate or extract. Use in electron microscopy reported in scientific literature (PMID: 18799754).

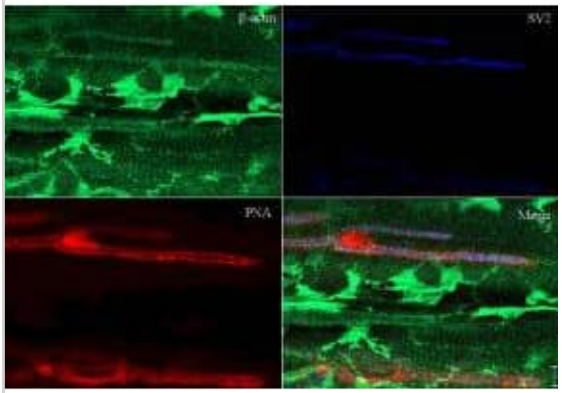
Images

Western Blot: beta-Actin Antibody [NB600-505] - Representative western blot bands: MMP-9, MMP-12 and beta-Actin in lung homogenates of the CS and Air groups from different gels. Image collected and cropped by CiteAb from the following publication (https://www.nature.com/articles/s41598-018-19890-1), licensed under a CC-BY license.	
Immunohistochemistry: beta-Actin Antibody [NB600-505] - Staining at 1:200 shows detection of actin at the neuromuscular juntion of rana pipiens tissue. Formalin fixed paraffin embedded sections.	
Western Blot: beta-Actin Antibody [NB600-505] - Detection of actin Lane 1: HeLa cell lysate, Lane 2: rat brain, Lane 3: mouse brain, Lane 4: 3T3 cell lysate.	
Western Blot: beta-Actin Antibody [NB600-505] - analysis of Beta Actin on HeLa and LNCaP cell lysates(25ug/lane) using anti-Beta Actin antibody. Image from verified customer review.	

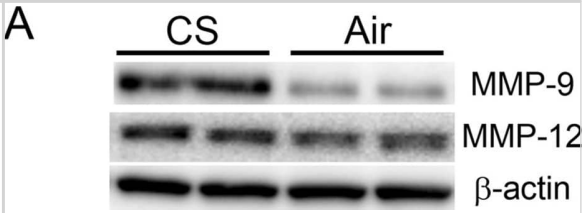
Western Blot: beta-Actin Antibody [NB600-505] - Lane 1: molecular weight. Lane 2: human embryonic kidney 293. Lane 3: human lung carcinoma A549. Lane 4: mouse brain. Load: 35 ug per lane. Primary antibody: Beta Actin antibody at 1:1,500 for overnight at 4C. Secondary antibody: IRDye800 rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4C. Predicted/Observed size: 42 kDa corresponding to beta Actin (arrowhead). Other band(s): none.



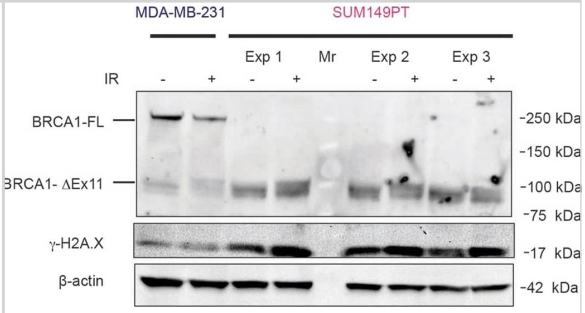
Immunohistochemistry of Rabbit beta-Actin Antibody. Tissue: sections 4.2 mm thick of rana pipiens tissue. Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary antibody: Beta Actin antibody at 1:200 for 1 h at RT. Secondary antibody: Peroxidase rabbit secondary antibody at 1:10,000 for 45 min at RT. Localization: Beta Actin is at the neuromuscular junction. Staining: Beta Actin as precipitated green signal with red and blue counterstain.



(A) Representative western blot bands: MMP-9, MMP-12 and β-actin in lung homogenates of the CS and Air groups from different gels. Full-length gels and blots are shown in a supplementary information (Supplemental Fig. 2) (B,C) Expression of MMP-9 (B) and MMP-12 (C) in the CS group compared with the Air group after normalization to β-actin. (D) Total cells per 1 ml bronchoalveolar lavage fluid. (E) The ratio of neutrophil in bronchoalveolar lavage fluid. *p < 0.05 vs corresponding Air groups.

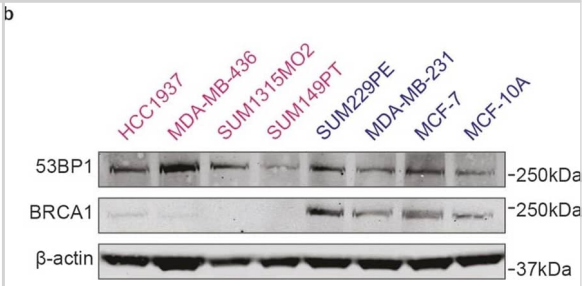


Western Blot: beta-Actin Antibody [NB600-505] - SUM149PT cells express a truncated partially functional BRCA1 protein.Cells were irradiated with 6 Gy & lysed after 6 hours for analysis by Western blotting. Data for three independent experiments are shown (Exp 1–3). Note the band shifting after irradiation probably reflecting changes in the phosphorylation status. Mr, molecular weight marker; BRCA1-FL, full-length BRCA1 protein; BRCA1-ΔEx11, truncated BRCA1 protein lacking exon 11. Image collected & cropped by CiteAb from the following publication (https://www.nature.com/articles/srep28217), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: beta-Actin Antibody [NB600-505] - BRCA1-mutant cell lines show distinct sensitivities to 6-thoguanine.(a) Sensitivity of BRCA1-mutant (red) & BRCA1-wild-type (blue) cell lines to 6-thioguanine was tested in 96-well plates in four replicas using CellTiter-Blue metabolic assay. Each data point represents an average of four replicas. Non-linear regression curves were calculated using GraphPad Prism. (b) Western blot demonstrating that BRCA1-mutant (red) cell lines express full-length 53BP1 protein, but not BRCA1. (c) Quantification of 53BP1 protein expression for select cell lines. Individual normalized band intensity values in arbitrary units (A.U.) from three independent experiments are shown. Red lines show average values for each cell line. Statistical significance was evaluated with the Dunn's multiple comparisons test following a significant non-parametric Kruskal-Wallis test using GraphPad Prism software. *p < 0,05. (d) Western blot reveals expression of mismatch repair proteins MSH2 & MLH1 in all cells, but lack of the HPRT protein in SUM1315MO2 cell line, likely explaining its resistance to 6-thioguanine. β-actin is used as loading control. (e) Quantification of HPRT protein expression for select cell lines as described in (c). Image collected & cropped by CiteAb from the following publication (https://www.nature.com/articles/srep28217), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

Western Blot: beta-Actin Antibody [NB600-505] - BRCA1-mutant cell lines show distinct sensitivities to 6-thoguanine.(a) Sensitivity of BRCA1-mutant (red) & BRCA1-wild-type (blue) cell lines to 6-thioguanine was tested in 96-well plates in four replicas using CellTiter-Blue metabolic assay. Each data point represents an average of four replicas. Non-linear regression curves were calculated using GraphPad Prism. (b) Western blot demonstrating that BRCA1-mutant (red) cell lines express full-length 53BP1 protein, but not BRCA1. (c) Quantification of 53BP1 protein expression for select cell lines. Individual normalized band intensity values in arbitrary units (A.U.) from three independent experiments are shown. Red lines show average values for each cell line. Statistical significance was evaluated with the Dunn's multiple comparisons test following a significant non-parametric Kruskal-Wallis test using GraphPad Prism software. *p < 0,05. (d) Western blot reveals expression of mismatch repair proteins MSH2 & MLH1 in all cells, but lack of the HPRT protein in SUM1315MO2 cell line, likely explaining its resistance to 6-thioguanine. β-actin is used as loading control. (e) Quantification of HPRT protein expression for select cell lines as described in (c). Image collected & cropped by CiteAb from the following publication (https://www.nature.com/articles/srep28217), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Madhura D, Theodore P, Nahed J et al. Error-prone repair of stalled replication forks drives mutagenesis and loss of heterozygosity in haploinsufficient BRCA1 cells. Mol Cell. 2022-09-07 [PMID: 36099913]

N Kondo, F Hirano, T Temma Evaluation of 3-Borono-l-Phenylalanine as a Water-Soluble Boron Neutron Capture Therapy Agent Pharmaceutics, 2022-05-22;14(5):. 2022-05-22 [PMID: 35631692]

Colli LM, Jessop L, Myers TA Et al. Altered regulation of DPF3, a member of the SWI/SNF complexes, underlies the 14q24 renal cancer susceptibility locus American journal of human genetics 2021-08-09 [PMID: 34390653] (WB, Mouse)

Thomas-Jardin SE, Kanchwala MS, Jacob J et al. Identification of an IL-1-induced gene expression pattern in AR(+) PCa cells that mimics the molecular phenotype of AR(-) PCa cells. Prostate 2018-06-01 [PMID: 29527701] (Human)

Shapiro M, Tang T, Dasgupta A, Kurenbekova L. In Vitro and In Vivo Characterization of a Preclinical Radiation-Adapted Model for Ewing Sarcoma. Int J Radiat Oncol Biol Phys. 2018-02-01 [PMID: 29534895] (Human)

Kondo N, Temma T, Aita K et al. Development of matrix metalloproteinase-targeted probes for lung inflammation detection with positron emission tomography Sci Rep 2018-01-22 [PMID: 29358724] (WB, Mouse)

Gu Y, Bouwman P, Greco D et al. Suppression of BRCA1 sensitizes cells to proteasome inhibitors. Cell Death Dis 2014-12-18 [PMID: 25522274] (WB)

Bigot P, Colli LM, Machiela MJ et al. Functional characterization of the 12p12 1 renal cancer-susceptibility locus implicates BHLHE41. Nat Commun. [PMID: 27384883] (WB)

Details:
Citation using the HRP form of this antibody.

Gu Y, Helenius M, Vaananen K et al. BRCA1-deficient breast cancer cell lines are resistant to MEK inhibitors and show distinct sensitivities to 6-thioguanine. Sci Rep 2016-06-17 [PMID: 27313062] (WB)

Denis N, Palmer-Smith H, Elisma F et al. Quantitative Proteomic Analysis of PCSK9 Gain of Function in Human Hepatic HuH7 Cells. J Proteome Res. 2011-03-10 [PMID: 21332221]

Gerrits Han, Parade Marc C B C, Koonen-Reemst Annemie M C B et al. Reversible infertility in a liver receptor homologue-1 (LRH-1)-knockdown mouse model. Reprod Fertil Dev. 2014-01-01 [PMID: 23425349] (Mouse)

Chang M A, Patel V, Gwede M et al. IL-1beta induces p62/SQSTM1 and represses androgen receptor expression in prostate cancer cells. J Cell Biochem. 2014-12-01 [PMID: 25103771]

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