Product Datasheet

beta-Actin Antibody
NB100-56874

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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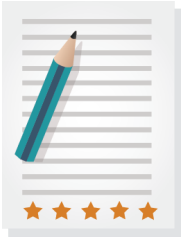
Updated 12/20/2023 v.20.1



NB100-56874

beta-Actin Antibody

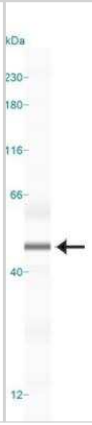
Product Information	
Unit Size	0.1 mg
Concentration	1.0 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.05% Sodium Azide
Isotype	IgG
Purity	Protein G purified
Buffer	PBS
Target Molecular Weight	42 kDa

Product Description	
Host	Rabbit
Gene ID	60
Gene Symbol	ACTB
Species	Human, Mouse, Rat, Porcine, Bovine, Chinese Hamster, Invertebrate
Reactivity Notes	Use in Rat reported in scientific literature (PMID:34443654). Invertebrate, Porcine, Bovine, and Chinese Hamster reactivity reported in scientific literature (PMID: 25240497, 26593451, 18650284, and 19291423 respectively). .
Immunogen	Amino acids 2-16 (CDDDIAALVIDNGSG) of actin protein were used as the immunogen sequence for this beta-Actin Antibody.

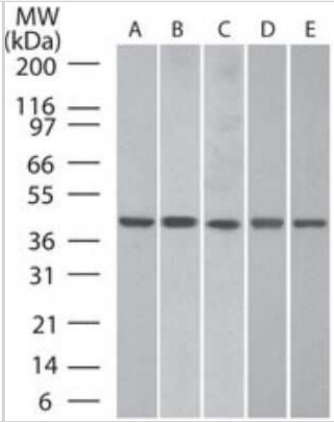
Product Application Details	
Applications	Western Blot, Simple Western, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Knockdown Validated
Recommended Dilutions	Western Blot 0.25-1 ug/ml, Simple Western 1:12.5, Immunohistochemistry reported in scientific literature (PMID 27371029), Immunocytochemistry/ Immunofluorescence 1:100, Immunohistochemistry-Paraffin 10 ug/mL, Knockdown Validated reported in scientific literature (PMID 31835509)
Application Notes	This antibody is not suitable for testing heart or muscle lysate. In Simple Western only 10 - 15 uL of the recommended dilution is used per data point. Separated by Size-Wes, Sally Sue/Peggy Sue.

Images

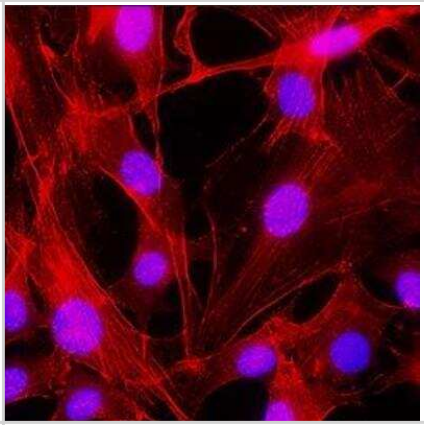
Simple Western: beta-Actin Antibody [NB100-56874] - Image shows a specific band for Beta Actin in 1.0 mg/mL of HeLa lysate. This experiment was performed under reducing conditions using the 12-230 kDa separation system.



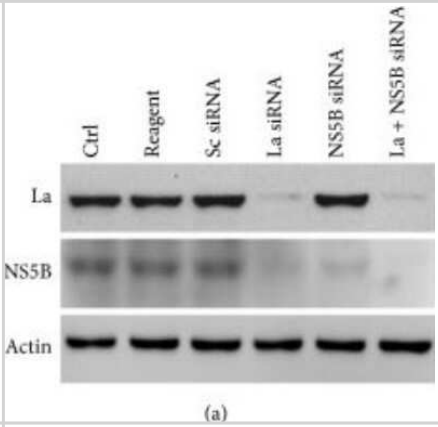
Western Blot: beta-Actin Antibody [NB100-56874] - Specific bands are seen in various cell lysates at the same molecular weight. A: human brain, B: mouse brain, C: rat brain, D: human lung, and E: human spleen tissue probed using beta actin antibody at 0.25 ug/mL.



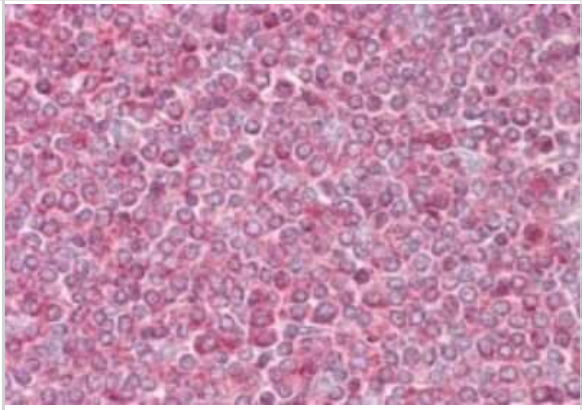
Immunocytochemistry/Immunofluorescence: beta-Actin Antibody [NB100-56874] - Actin was detected in NIH-3T3 cells fixed with methanol using rabbit anti-mouse Actin antibody (NB100-56874) at 1:100 dilution, overnight at 4C. Cells were stained using Northern Lights 557 conjugated anti-rabbit IgG secondary antibodies (NL004) and counterstained with DAPI.



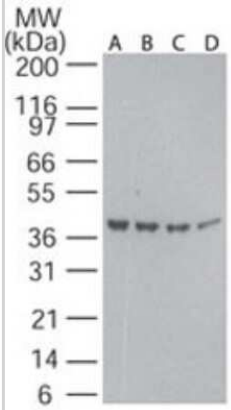
Western Blot: beta-Actin Antibody [NB100-56874] - Analysis of NS5B protein expression after transfecting NS5B and La autoantigen siRNAs: HCV-infected Huh-7. 5 cells were treated with siRNAs against La autoantigen and NS5B as mentioned above. After 48h total cellular protein was isolated and subjected to western blot analysis. The analysis indicates downregulation of La autoantigen (upper gel) and NS5B (middle gel) andI2-actin (lower gel). Image collected and cropped by Citeab from the following publication (Combinations of siRNAs against La Autoantigen with NS5B or hVAP-A Have Additive Effect on Inhibition of HCV Replication. *Hepat Res Treat* (2016)) licensed under a CC-BY license.



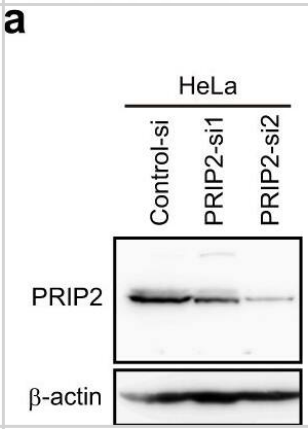
Immunohistochemistry-Paraffin: beta-Actin Antibody [NB100-56874] - Analysis of human spleen using antibody at 10 ug/mL.



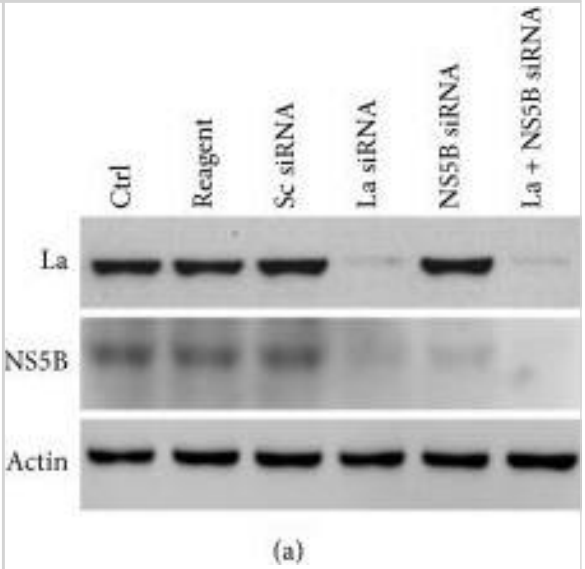
Western Blot: beta-Actin Antibody [NB100-56874] - Decreasing amounts of human ovary tissue lysate were probed using beta actin antibody at 0.25 ug/mL: A) 40 ug, B) 30 ug, C) 20 ug, D) 10 ug per lane.



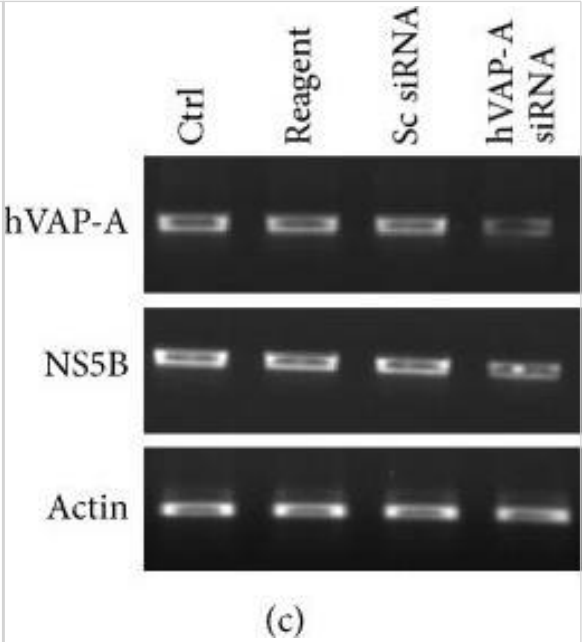
PRIP participates in the formation and ingression of the cleavage furrow. (a) Success of PRIP2 silencing in HeLa cells analysed by western blotting using the indicated antibodies. beta-actin was used as a loading control. Control siRNA (Control-si) and PRIP2 siRNAs (PRIP2-si1 and PRIP2-si2) were used. Each of the original blots is shown in Supplementary Fig. S7a,b. Image collected and cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/31484968), licensed under a CC-BY licence.



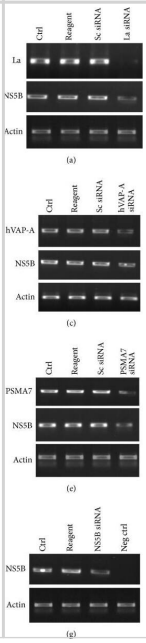
Truncated Sin1 displaces endogenous Sin1 from mTORC2 in DLD1 colon cancer cellsA. Schematic indicating the domain structure of Sin1 and the constructs used to displace endogenous Sin1 from mTORC2. B. Expression of myc tagged Sin1 constructs can be detected only after induction with Doxycycline (Dox). Cells were treated with 100nM of doxycycline (+) for 72 hours and expressed proteins were detected by immunoblot of whole cell lysates with anti-myc (9E10) antibodies. C. and D. Sin1 constructs incorporate into mTORC2 and displace endogenous Sin1. Constructs were induced for 72 hours prior to immune precipitation. (C) mTORC2 subunits, mTOR and Rictor, only appear in myc immunoprecipitates after induction with doxycycline (Left panels); myc-ΔSin1 cannot be directly detected in precipitates due to secondary antibody cross reaction with precipitating IgG. Right panels indicate unchanging expression levels of Rictor and mTOR in immune precipitation input lysates, which is further quantified from 3 independent experiments E. Endogenous Sin1 and Rictor immunoprecipitates demonstrate displacement of endogenous Sin1 from mTORC2. Following induction, band shifted myc-tagged FL Sin1 can be detected in Sin1 and Rictor precipitates (Left panels). Truncated ΔSin1 can be detected in Rictor, but not Sin1, immunoprecipitates as the Sin1 antibody epitope is deleted from ΔSin1. F. Quantification of Sin1 levels detected in Rictor immunoprecipitates indicates the level of endogenous mTORC2 disruption following Sin1 construct induction (data are mean +/- S.D; n = 3). Myc-ΔSin1 displaces >80% of endogenous Sin1 while levels of myc-FL Sin1 associated with Rictor are comparable with endogenous Sin1 levels. Image collected and cropped by CiteAb from the following open publication (https://www.oncotarget.com/lookup/doi/10.18632/oncotarget.20086), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



miR-375-mediated repression of HPV16, E6AP, and CIP2A activates the p53-p21 network and suppresses telomerase activity. (A) miR-375 demonstrates upregulation of p53 and p21 comparable to that of the single or combined CIP2A, E6, and E6AP knockdown. CIP2A, E6AP, p53, and p21 protein levels in SiHa cells transfected with siRNA targeting CIP2A, HPV16-E6, and E6AP (si-CIP2A, si-E6, and si-E6AP, respectively) were analyzed by Western blot. 1 nM and 10 nM siRNA concentrations and 5 nM and 50 nM for miR-375-mimic were used for transfection. si-Three is a combination of the three siRNAs indicated above. 10 nM of si-GFP was used as a control. Tubulin expression was used as internal control. (B) The increase in p21 protein levels correlate to its mRNA levels. Relative endogenous p21 mRNA levels transfected with siRNAs or miR-375 were measured using qRT-PCR. (C) miR-375 exerted a similar or stronger reduction in TERT mRNA levels when compared to E6 and E6AP knockdown in SiHa cells. (D) SiHa cells transfected with miR-375-mimic significantly reduced telomerase activity. Relative telomerase activities in SiHa cells transfected with NS control, miR-375-mimic, and miR-375 inhibitor were measured by SYBR real-time PCR TRAP assay. Heat-inactivated telomerase extracts were used to normalize this data. *p < 0.05, **p < 0.01, ***p < 0.001, and ****p < 0.0001. ns, not significant. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/24708873), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



SOD2 mRNA and protein expression. RT-PCR: (A) SOD2 mRNA expression is higher in adults, and highest in the adult parenchyma. (B) No exposure effects on SOD2 mRNA were observed in neonates. (C) Adult SOD2 mRNA was decreased in PFP48. Data are presented as mean+SEM (n=5-7 rats/group, in each compartment), * significantly different compared to neonates in the same compartment, † significantly different compared to airways in the same age, ‡ significantly different compared to FA in the same compartment. Western blotting: (D) Scan of representative SOD2 and actin blots. (E) Neonatal whole lung SOD2 protein expression was unchanged with exposure, and (F) adult whole lung SOD2 protein trended upwards at PFP2, but was statistically insignificant. (G-J) Immunohistochemical localization of SOD2 in lung (n=6 rats/group). SOD2 protein was more abundant in adults compared to neonates, but no exposure specific differences were observed. Scale bar is 50 μm. Image collected and cropped by CiteAb from the following open publication (https://particleandfibretoxicology.biomedcentral.com/articles/10.1186/1743-8977-10-34), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Wang W, Liu Z, Jing B et al. 4,8-dicarboxyl-8,9-iridoid-1-glycoside Promotes Neural Stem Cell Differentiation Through MeCP2 Dose-response : a publication of International Hormesis Society 2022-08-03 [PMID: 35958275] (WB, Rat)

Chandra K, Roy Chowdhury A, Chatterjee R, Chakravortty D GH18 family glycoside hydrolase Chitinase A of Salmonella enhances virulence by facilitating invasion and modulating host immune responses PLoS pathogens 2022-04-01 [PMID: 35482710] (WB, C. elegans)

Mohamed RA, Abdallah DM, El-Brairy AI Et al. Palonosetron/Methyllycaconitine Deactivate Hippocampal Microglia 1, Inflammasome Assembly and Pyroptosis to Enhance Cognition in a Novel Model of Neuroinflammation Molecules 2021-08-27 [PMID: 34443654] (WB, Rat)

Details:
Citation using the HRP version of this antibody.

Tomita K, Nagasawa T, Kuwahara Y Et al. MiR-7-5p Is Involved in Ferroptosis Signaling and Radioresistance Thru the Generation of ROS in Radioresistant HeLa and SAS Cell Lines International journal of molecular sciences 2021-08-02 [PMID: 34361070] (WB, Human)

Takashi Y, Tomita K, Kuwahara Y et al. Mitochondrial dysfunction promotes aquaporin expression that controls hydrogen peroxide permeability and ferroptosis Free Radic Biol Med 2020-10-02 [PMID: 33017631] (WB, Human)

Sato S, Kikuchi T, Nishimura Y et al. Generation of mouse iPS cells using an inducible expression of transgenes via the cumate gene-switch Anal. Biochem. 2020-04-22 [PMID: 32333903] (WB, Mouse)

Wang L, Zhang S, Cheng G et al. MiR-145 reduces the activity of PI3K/Akt and MAPK signaling pathways and inhibits adipogenesis in bovine preadipocytes Genomics 2020-03-03 [PMID: 32135297] (WB)

Uemasu K, Tanabe N, Tanimura K et Al. Serine Protease Imbalance in the Small Airways and Development of Centrilobular Emphysema in COPD Am. J. Respir. Cell Mol. Biol. 2020-02-26 [PMID: 32101459] (Mouse)

Wang L, Zhang S, Zhang W et Al. miR-424 Promotes Bovine Adipogenesis Through an Unconventional Post-Transcriptional Regulation of STK11 Front Genet 2020-03-04 [PMID: 32194625] (WB, Bovine)

Ghezzi C, Wong A, Chen BY et al. A high-throughput screen identifies that CDK7 activates glucose consumption in lung cancer cells Nat Commun 2019-11-29 [PMID: 31784510] (WB, Human)

Su X, Wang Y, Li A Neudesin Neurotrophic Factor Promotes Bovine Preadipocyte Differentiation and Inhibits Myoblast Myogenesis Animals (Basel) 2019-12-10 [PMID: 31835509] (WB, KD, Bovine)

Huang YM, Cheng CH, Pan SL et al. Gene Expression Signature-Based Approach Identifies Antifungal Drug Ciclopirox As a Novel Inhibitor of HMGA2 in Colorectal Cancer Biomolecules 2019-11-02 [PMID: 31684108] (WB, Human)

More publications at http://www.novusbio.com/NB100-56874

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NB600-503PEP	beta-Actin Antibody Blocking Peptide

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