

# Product Datasheet

## beta-Actin Antibody (AC-15) - BSA Free NB110-67828

Unit Size: 0.1 ml

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

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**NB110-67828**

beta-Actin Antibody (AC-15) - BSA Free

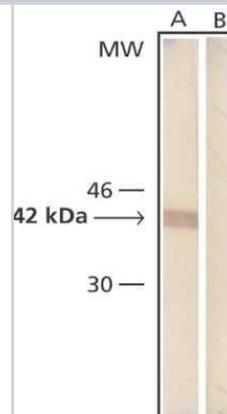
<b>Product Information</b>	
<b>Unit Size</b>	0.1 ml
<b>Concentration</b>	1.0 mg/ml
<b>Storage</b>	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
<b>Clonality</b>	Monoclonal
<b>Clone</b>	AC-15
<b>Preservative</b>	0.9% Sodium Azide
<b>Isotype</b>	IgG1
<b>Purity</b>	Protein A or G purified
<b>Buffer</b>	10mM PBS (pH 7.4)
<b>Target Molecular Weight</b>	42 kDa
<b>Product Description</b>	
<b>Description</b>	This is the purified version of NB600-501.
<b>Host</b>	Mouse
<b>Gene ID</b>	60
<b>Gene Symbol</b>	ACTB
<b>Species</b>	Human, Mouse, Rat, Porcine, Bovine, Canine, Chicken, Feline, Fish, Guinea Pig, Hamster, Leech, Mammal, Primate, Rabbit, Sheep, Squirrel, Turkey, Zebrafish, Drosophila (Negative)
<b>Reactivity Notes</b>	The antibody reacts with b-actin-expressing cells in bovine, canine, chicken, feline, carp, leech, guinea pig, human, mouse, porcine, rabbit, rat, and sheep. Does not react with amoeba or drosophila. Does not cross react with adult cardiac or skeletal muscle or amoeba beta actin. Not yet tested in other species. Please note that this antibody is reactive to Mouse and derived from the same host, Mouse. Additional Mouse on Mouse blocking steps may be required for IHC and ICC experiments. Please contact Technical Support for more information.
<b>Specificity/Sensitivity</b>	Beta-actin (AC-15). In staining of chicken gizzard ultrathin tissue cryosections, the antibody labels the dense bodies and longitudinal channels linking consecutive dense bodies that are also occupied by desmin and the membrane-associated dense plaque. It does not stain adult cardiac and skeletal muscles except for traces due to contaminations of the sample with non-muscle cells, or if embryonic tissue is being used.
<b>Immunogen</b>	This beta-Actin Antibody (AC-15) was made to a slightly modified Beta-cytoplasmic actin N-terminal peptide, Ac-Asp-Asp-Asp-Ile-Ala-Ala-Leu-Val-Ile-Asp-Asn-Gly-Ser-Gly-Lys, conjugated to KLH.
<b>Notes</b>	This is the purified version of NB600-501.
<b>Product Application Details</b>	
<b>Applications</b>	Western Blot, Simple Western, Flow Cytometry, Immunocytochemistry/Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Microarray, Knockdown Validated, Knockout Validated



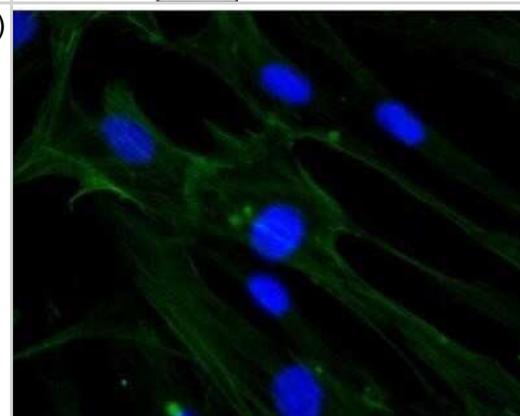
<b>Recommended Dilutions</b>	Western Blot 0.5-1 ug/ml, Simple Western, Flow Cytometry, Immunohistochemistry 1:10-1:500, Immunocytochemistry/ Immunofluorescence 10-40 ug/ml, Immunohistochemistry-Frozen 1:10-1:500, Microarray, Knockout Validated, Knockdown Validated
<b>Application Notes</b>	See <a href="#">Simple Western Antibody Database</a> for Simple Western validation: tested in HeLa lysate; antibody dilution of 1:50; separated by size; detects a band at 54 kDa

## Images

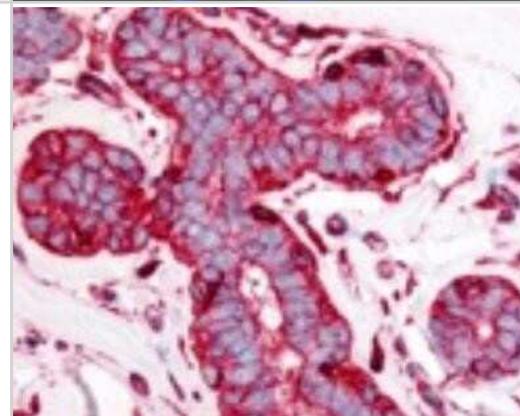
Western Blot: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - Whole cell extract of human fibroblasts was separated on SDS-PAGE and blotted with Monoclonal Anti-beta-Actin. The antibody was developed with Goat Anti-Mouse IgG, Peroxidase conjugate and AEC substrate. Lanes A: Antibody dilution 1:5,000 B: Negative control (only secondary antibody).



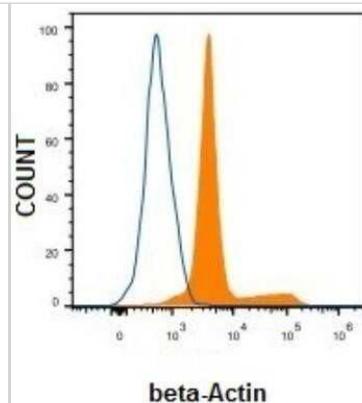
Immunocytochemistry/Immunofluorescence: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - Staining in HS-68 cells.



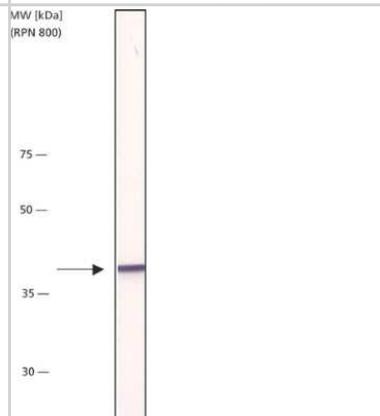
Immunohistochemistry: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - Staining in breast, Epithelium 40X.



Flow Cytometry: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - Analysis of HeLa cells using mouse Monoclonal beta-Actin antibody (orange) and Isotype control antibody (blue).



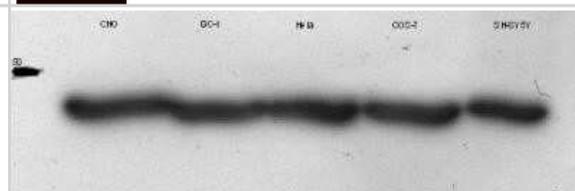
Western Blot: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - Chicken fibroblast cells probed with monoclonal PA to Beta Actin, clone AC-15 (0.5 ug/ml). The antibody was developed with Alkaline Phosphatase conjugate and a NBT/BCIP substrate.



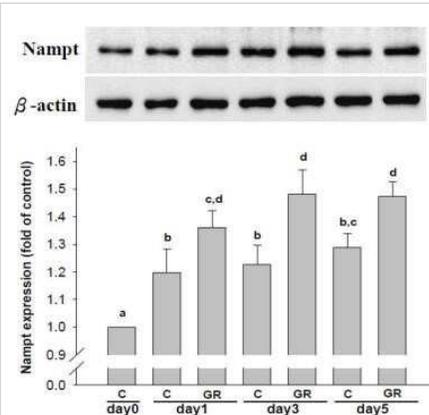
Western Blot: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - Analysis of beta-Actin in bovine whole skeletal muscle lysate. Image from verified customer review.



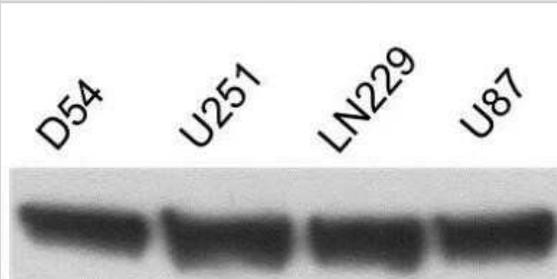
Western Blot: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - beta-Actin expression in CHO, GC-1, HeLa, Cos-7 and SH-SY5Y cell lysates using anti-beta-Actin antibody. The primary antibody was used at a dilution of 1:10,000 for 1 hour. Image from verified customer review.



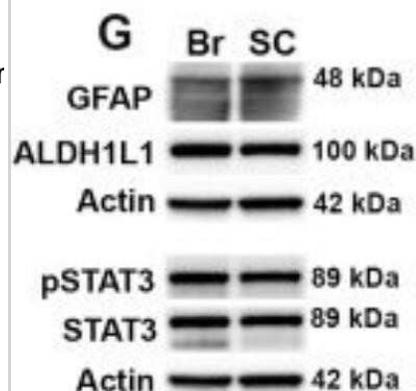
Western Blot: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - Beta-Actin expression in Fibroblast Hs68 cell lysate using anti-beta-Actin antibody. Image from verified customer review.



Western Blot: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - beta-Actin expression in human glioma cells using anti-beta-Actin antibody. Image from verified customer review.



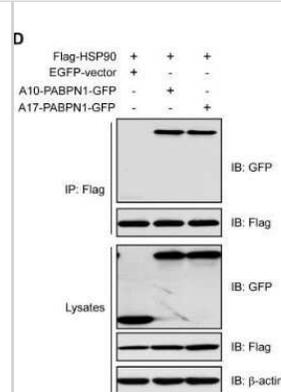
Western Blot: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - GFAP and IL-6 are elevated in cultures of spinal cord compared to cortical astrocytes. ((G, H) Analysis of protein homogenates from brain or spinal cord astrocyte cultures also demonstrated higher levels of GFAP expression, but no differences in ALDH1L1. Beta-Actin is included as a loading control. Image collected and cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0180697>), licensed under a CC-BY license.



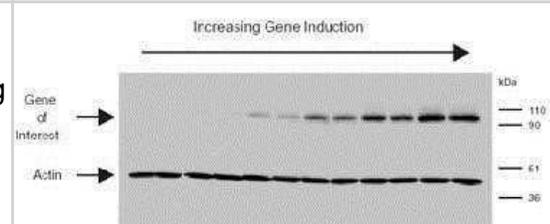
Western Blot: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - HEK293T cells transfected with Nipah virus Matrix Protein, expression 24h later. This image was submitted via customer review.



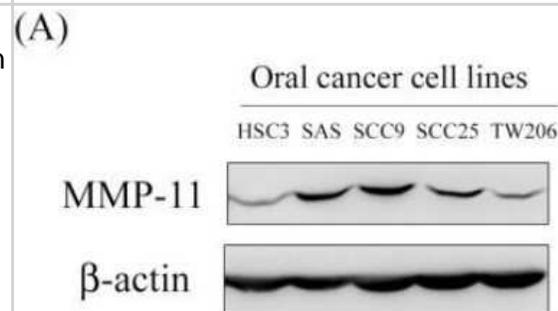
Western Blot: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - HSP90 and HSP70 interact with PABPN1. Interaction of PABPN1 with HSP90. Lysates from HEK293 cells transfected with Flag-HSP90 and GFP-tagged A17-PABPN1 were immunoprecipitated with an anti-Flag antibody. Immunoprecipitates (IP) were analyzed by Western blot (IB). Beta-Actin is included as a loading control. Image collected and cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0138936>), licensed under a CC-BY license.



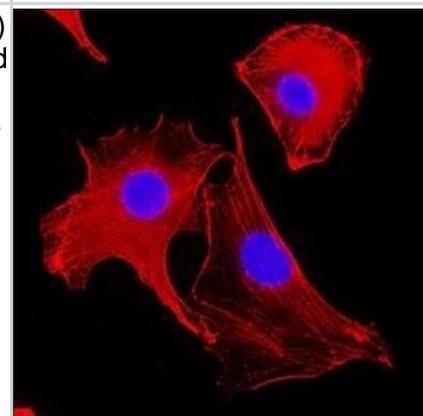
Western Blot: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - MCDK cells induced with C22H24N2O8 to control the expression of the gene of interest. Beta-actin blocking confirms the albumin assay showing that an equal amount of lysate was loaded in each lane.



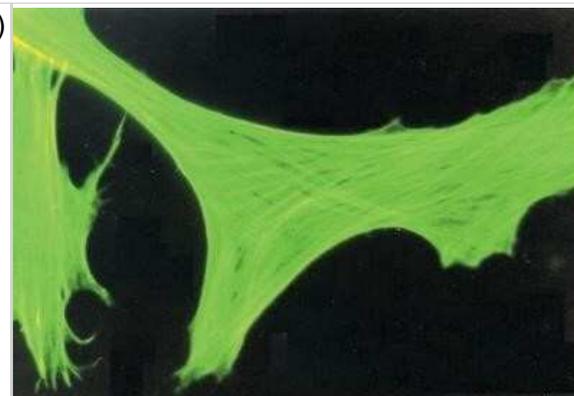
Western Blot: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - MMP-11 expression in oral cancer cell lines and the MMP-11 knockdown in SCC9 cells reduce cell migration. Western blot analysis showing the expression of MMP-11 protein in five oral cancer cell lines. Beta-Actin is included as a loading control. Image collected and cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0113129>), licensed under a CC-BY license.



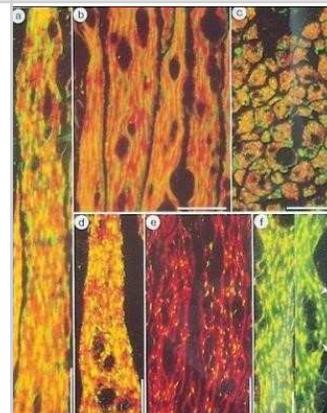
Immunocytochemistry/Immunofluorescence: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - Beta-actin was detected in NIH-3T3 cells fixed with methanol using mouse anti-mouse beta-Actin monoclonal antibody (NB600-501) at 1:2700 dilution. Cells were stained using Northern Lights 557 conjugated anti-mouse secondary antibody (NL007) and counterstained with DAPI.



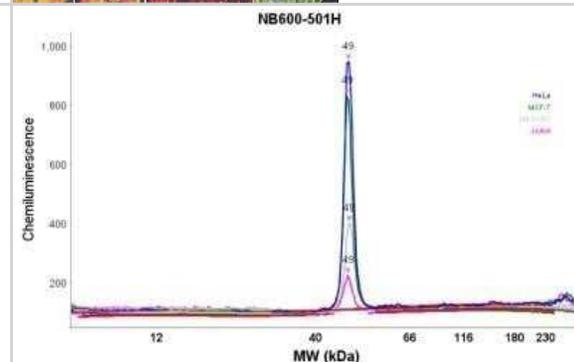
Immunocytochemistry/Immunofluorescence: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - Cultured FS-11 human fibroblast cell line stained using Monoclonal Anti-Beta-Actin, Clone No. AC-15 (NB600-501).



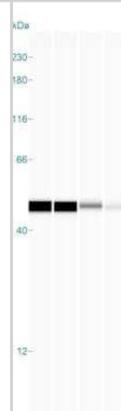
Immunohistochemistry: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - Double exposure micrographs of longitudinal, expanded (a,b) and transverse (c) semi-thin cryosections of chicken gizzard muscle double labeled with Monoclonal Anti-alpha-Actin and polyclonal antibodies to chicken gizzard myosin (red). d-f. Longitudinal, expanded cryosections of chicken gizzard muscle double labeled with polyclonal Anti-alpha-Actinin (green, d, e, red, f) in combination with antibodies to chicken gizzard myosin, antibodies to chicken desmin and Monoclonal Anti-Beta Actin,(f, green). Bars, 10 mm. From Dr. J. V. Small, Institute of Molecular Biology, Academy of Sciences, Salzburg.



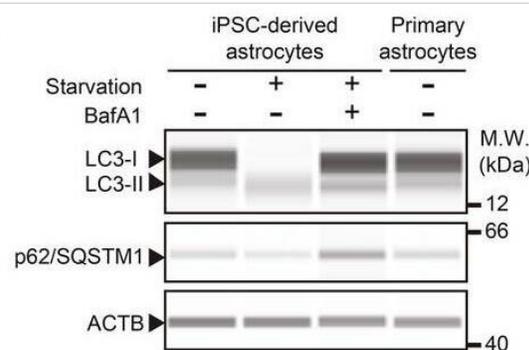
Simple Western: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - Analysis using the HRP conjugate of NB600-501. Electropherogram image(s) of corresponding Simple Western lane view. Beta-Actin antibody was used at 1:500 dilution on HeLa, MCF-7, SH-SY5Y,



Simple Western: beta-Actin Antibody (AC-15) - Purified [NB110-67828] - Analysis using the HRP conjugate of NB600-501. Image shows a specific band for Beta-Actin in 0.2 mg/mL of HeLa, MCF-7, SH-SY5Y,



Simple Western: beta-Actin Antibody (AC-15) - BSA Free [NB110-67828] (D)  
 - Autolysosome imaging after growth factor deprivation captured the autophagy induction in iPSC-derived astrocytes. (A) Schematic procedures of autophagy induction assay. (B) Representative images of cells and autolysosomes on day 2 with or without growth factor deprivation. (C) Fluorescence counts per well of 96-well plate at 16 h after initiation of assay. Astrocytes were treated with control, starvation and starvation with 10 nM bafilomycin A1 (BafA1) condition. The data were analysed by one-way ANOVA ( $F [3, 12] = 21.19, p < 0.0001$ ), followed by Tukey's multiple comparisons test.  $*p < 0.05$ ,  $**p < 0.01$ ,  $***p < 0.001$ , ns, not significant. Data represent mean  $\pm$  SD ( $n = 4$ , from different experimental replicates). (D) Astrocytes were treated with control, starvation and starvation with 10 nM bafilomycin A1 (BafA1) condition. Cells were lysed and subjected to immunoblot analysis at 16 h after initiation of assay. M.W., molecular-weight size marker. Image collected and cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/38509731>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



## Publications

Pearl P. Y. Lie, Lang Yoo, Chris N. Goulbourne, Martin J. Berg, Philip Stavrides, Chunfeng Huo, Ju-Hyun Lee, Ralph A. Nixon Axonal transport of late endosomes and amphisomes is selectively modulated by local Ca<sup>2+</sup> efflux and disrupted by PSEN1 loss of function *Science Advances* 2022-04-01 [PMID: 35486730]

Hideki Nonaka, Takayuki Kondo, Mika Suga, Ryu Yamanaka, Yukako Sagara, Kayoko Tsukita, Naoko Mitsutomi, Kengo Homma, Ryuta Saito, Fumihiko Miyoshi, Hiromitsu Ohzeki, Masahiro Okuyama, Haruhisa Inoue Induced pluripotent stem cell-based assays recapture multiple properties of human astrocytes *Journal of Cellular and Molecular Medicine* 2024-03-20 [PMID: 38509731]

Fossati Silvia, Giannoni Patrizia, Solesio Maria E et al. The carbonic anhydrase inhibitor methazolamide prevents amyloid beta-induced mitochondrial dysfunction and caspase activation protecting neuronal and glial cells in vitro and in the mouse brain *Neurobiol Dis* 2016-02-01 [PMID: 26581638] (WB, Mouse)

### Details:

Citation using the Purified form of this antibody.

Cox JV, Abdelrahman YM, Peters J et al. Chlamydia trachomatis utilizes the mammalian CLA1 lipid transporter to acquire host phosphatidylcholine essential for growth *Cell Microbiol.* 2016-03-18 [PMID: 26381674] (WB, Human)

### Details:

Citation using the Purified form of this antibody.

Chong, V et al. Differential display polymerase chain reaction reveals increased expression of striatal rat glia-derived nexin following chronic clozapine treatment. *Pharmacogenomics J* 4(6):379-87. 2004-01-01 [PMID: 15354176]

Gimona, M et al. Beta-actin specific monoclonal antibody. *Cell Motil Cytoskeleton*;27(2):108-16. 1994-01-01 [PMID: 8162619]

Dennis, Vida A et al. Interleukin-10 anti-inflammatory response to *Borrelia burgdorferi*, the agent of Lyme disease: a possible role for suppressors of cytokine signaling 1 and 3. *Infect Immun* 74(10):5780-9. 2006-10-01 [PMID: 16988256]

Abramovich D, Parborell F, Tesone M. Effect of a vascular endothelial growth factor (VEGF) inhibitory treatment on the folliculogenesis and ovarian apoptosis in gonadotropin-treated prepubertal rats. *Biol Reprod* 75(3):434-41. 2006-09-01 [PMID: 16775226]

Rice, PL et al Rice PL, Peters SL, Beard KS, Ahnen DJ. Sulindac independently modulates extracellular signal-regulated kinase 1/2 and cyclic GMP-dependent protein kinase signaling pathways. *Mol Cancer Ther* 5(3):746-54. 2006-03-01 [PMID: 16546990]

Csiszar, A et al. Bone morphogenetic protein-2 induces proinflammatory endothelial phenotype. *Am J Pathol*;168(2):629-38. 2006-02-01 [PMID: 16436676]

Sung, S et al. Modulation of nuclear factor-kappa B activity by indomethacin influences A beta levels but not A beta precursor protein metabolism in a model of Alzheimer's disease. *Am J Pathol*;165(6):2197-206. 2004-12-01 [PMID: 15579461]

Adler, S et al. Oxidant stress in kidneys of spontaneously hypertensive rats involves both oxidase overexpression and loss of extracellular superoxide dismutase. *Am J Physiol Renal Physiol*;287(5):F907-13. 2004-11-01 [PMID: 15475543]

More publications at <http://www.novusbio.com/NB110-67828>



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General: novus@novusbio.com

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HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
NBP1-97005-0.5mg	Mouse IgG1 Isotype Control (MG1)
NB110-67828AF405	beta-Actin Antibody (AC-15) [Alexa Fluor® 405]

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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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