Product Datasheet

ATF3 Antibody - BSA Free

NBP1-85816

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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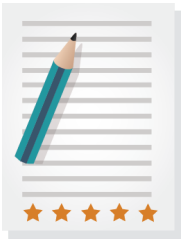


NBP1-85816

ATF3 Antibody - BSA Free

Product Information

Unit Size	0.1 ml
Concentration	Concentrations vary lot to lot. See vial label for concentration. If unlisted please contact technical services.
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.02% Sodium Azide
Isotype	IgG
Purity	Affinity purified
Buffer	PBS (pH 7.2) and 40% Glycerol

Product Description

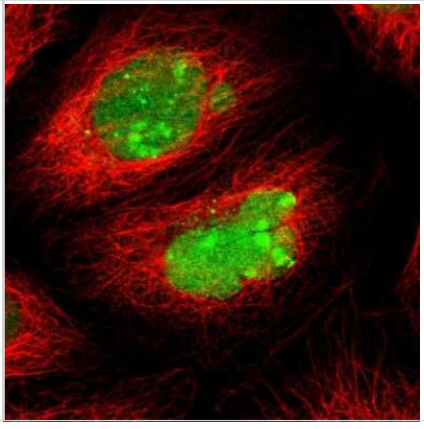
Host	Rabbit
Gene ID	467
Gene Symbol	ATF3
Species	Human, Mouse
Reactivity Notes	Mouse reactivity reported in scientific literature (PMID: 30993183).
Immunogen	This antibody was developed against Recombinant Protein corresponding to amino acids: MMLQHPGQVSASEVSASAIVPCLSPPGSLVFEDFANLTPFVKEELRFAIQNKHL CHRMSSALESVTVSDRPLGVSITKAEVAPEEDERKKRRRERNKIAAAKCRNKK KEKTEC

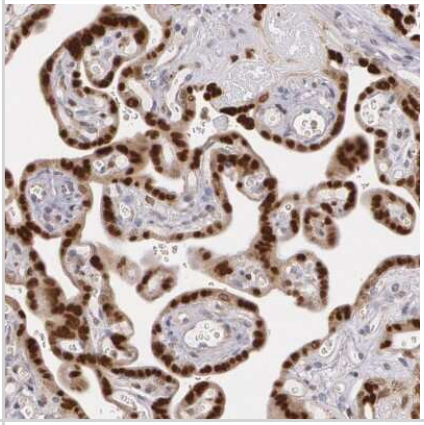
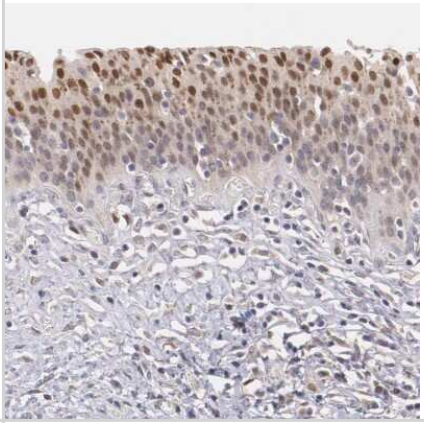
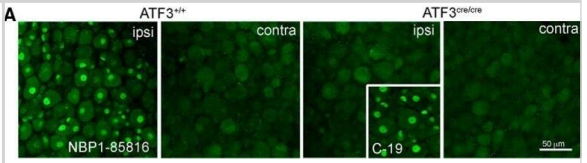
Product Application Details

Applications	Immunohistochemistry-Paraffin, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Knockout Validated
Recommended Dilutions	Immunohistochemistry 1:200 - 1:500, Immunocytochemistry/ Immunofluorescence 0.25-2 ug/ml, Immunohistochemistry-Paraffin 1:200-1:500, Immunohistochemistry-Frozen Validated from a verified customer review., Knockout Validated
Application Notes	IHC-Paraffin, HIER pH 6 retrieval is recommended. ICC/IF, Fixation Permeabilization: Use PFA/Triton X-100.

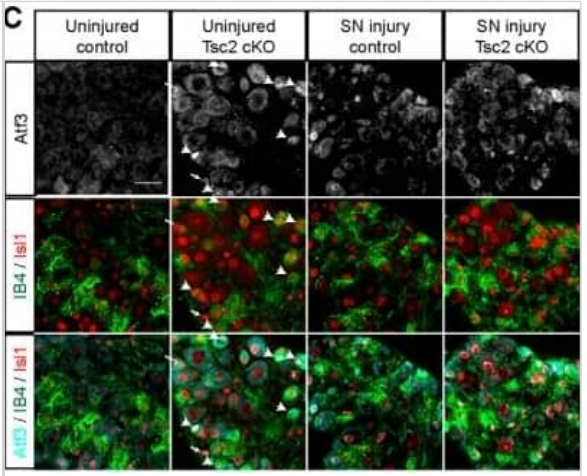
Images

Immunocytochemistry/Immunofluorescence: ATF3 Antibody [NBP1-85816] - Staining of human cell line A-431 shows localization to nucleus and nucleoli. Antibody staining is shown in green.

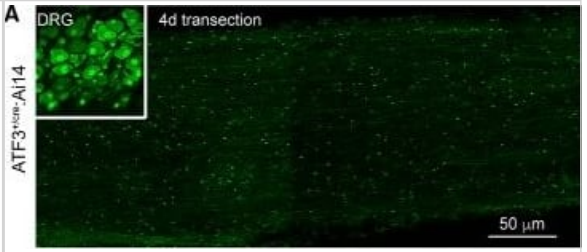


Immunohistochemistry-Paraffin: ATF3 Antibody [NBP1-85816] - Staining of human placenta shows strong nuclear positivity in trophoblastic cells.	
Immunohistochemistry-Paraffin: ATF3 Antibody [NBP1-85816] - Staining of human urinary bladder shows moderate to strong nuclear positivity in epithelial cells.	
Immunocytochemistry/ Immunofluorescence: ATF3 Antibody [NBP1-85816] - Axotomy-induced recombination in peripherally-projecting neurons. A, Validation of an ATF3-specific antibody. The Novus antibody (NBP1-85816) produces a positive signal in nuclei of axotomized sensory neurons in ATF3+/+ mice, but not ATF3cre/cre mice. Note that the Santa Cruz antibody (C-19) labels neuronal nuclei in in the latter (inset), indicating non-specific staining. B, C, Axotomy induced reporter expression in sensory (DRG), sympathetic (stellate ganglion, SG), & motoneurons 4 d after injury. D, Reporter expression in sensory axons & motoneurons one week after injury. E, Preventing CreERT2 translocation from cytoplasm to nucleus with ICI 182780 reduces recombination in ATF3+ cells (by □50%). F, Recombination efficiency 16 d after injury was calculated by expressing the proportion of tracer-filled somata (labeled at the time of injury) that were also reporter (tdtomato)-positive. G, Recombination efficiencies at 4 & 16 d after injury (n = 3 for each time point) for DRG & motoneurons. Images in panels A, B, E were taken from whole mounts, those in C, D, F from cryosections. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/30993183), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	

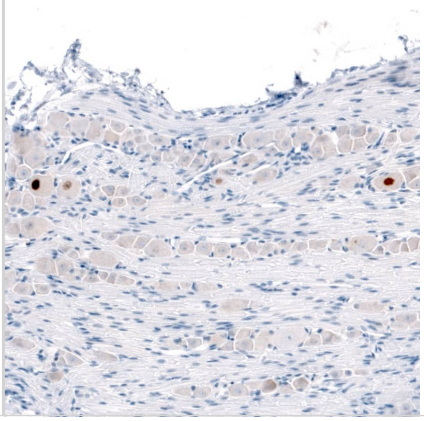
Immunohistochemistry: ATF3 Antibody [NBP1-85816] - Nociceptor deletion of Tsc2 preferentially upregulates cJun & Atf3 expression in IB4-positive neurons. A, Immunohistochemistry of L4 DRG contralateral & ipsilateral to a sciatic nerve transection (SN injury) at 3 d post-injury stained for cJun, Isl1 (all neurons), & IB4. Arrows point to cJun-positive, IB4-negative neurons, & arrowheads point to cJun, IB4 double-positive neurons in uninjured Tsc2 cKO DRG. Scale bars: 50 µm. B, Quantification of percentage of cJun-positive neurons from A. C, Immunohistochemistry of L4 DRG for Atf3, Isl1 (all neurons) & IB4. Arrows point to Atf3-positive, IB4-negative neurons & arrowheads point to Atf3, IB4 double-positive neurons in uninjured Tsc2 cKO DRG. Scale bars: 50 µm. D, Quantification of percentage of Atf3-positive neurons from C. E, Western blotting of uninjured control & Tsc2 cKO L4/L5 DRG from mice receiving daily vehicle or rapamycin treatment for 3 d. F, Quantification of protein expression from E. Log2 fold change relative to uninjured control from the same biological replicate. N.S., not significant, *p < 0.05, **p < 0.01, ***p < 0.001, ****p < 0.0001. Extended Data Figure 5-1 shows data values of mean & SEM, number of replicates, statistical tests, & values for all comparisons. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/31182472), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



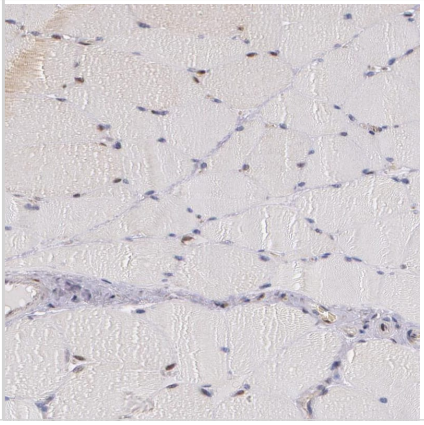
Immunocytochemistry/ Immunofluorescence: ATF3 Antibody [NBP1-85816] - Axotomy does not induce ATF3 in Schwann cells. A, Cryosections from injured DRG (inset) & distal sciatic nerve from the same mouse processed for ATF3 immunohistochemistry (Novus NBP1-85816). B, Punctate staining in the nerve proved to be non-specific fluorescence of leukocytes (note non-nuclear signal in the absence of primary antibody). C, In intact sciatic nerves, cells morphologically identical to Remak cells had at some point undergone recombination. D, Following injury, their numbers increased. E, This was attributable to their proliferation in the injured nerve (as opposed to ATF3 induction & subsequent recombination). C′, D′, Magnification of areas outlined in C & D demonstrate the spindle shaped morphology characteristic of Remak cells. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/30993183), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Staining of mouse dorsal root ganglion shows strong nuclear immunoreactivity in single neurons.



Staining of human skeletal muscle shows very weak nucleus-cytoplasmic positivity in myocytes.



Publications

Cervia L, Shibue T, Borah A et al. Data from A Ubiquitination Cascade Regulating the Integrated Stress Response and Survival in Carcinomas American Association for Cancer Research 2023-04-04 [PMID: 36576405]

Zhu X, Xie W, Zhang J et al. Sympathectomy decreases pain behaviors and nerve regeneration by downregulating monocyte chemokine CCL2 in dorsal root ganglia in the rat tibial nerve crush model Pain 2022-01-01 [PMID: 33941753]

Feng R, Muraleedharan Saraswathy V, Mokalled MH, Cavalli V. Self-renewing macrophages in dorsal root ganglia contribute to promote nerve regeneration Proceedings of the National Academy of Sciences 2023-02-14 [PMID: 36763532]

James NE, Woodman M, De La Cruz P et al. Adaptive transcriptomic and immune infiltrate responses in the tumor immune microenvironment following neoadjuvant chemotherapy in high grade serous ovarian cancer reveal novel prognostic associations and activation of pro-tumorigenic pathways Frontiers in Immunology 2022-09-05 [PMID: 36131935]

Carlin D, Halevi AE, Ewan EE et al. Nociceptor Deletion of Tsc2 Enhances Axon Regeneration by Inducing a Conditioning Injury Response in Dorsal Root Ganglia eNeuro 2019-06-25 [PMID: 31182472]

M Balogh, J Zhang, CM Gaffney, N Kalakuntla, NT Nguyen, RT Trinh, C Aguilar, HV Pham, B Milutinovi, JM Nichols, R Mahalingam, AJ Shepherd Sensory neuron dysfunction in orthotopic mouse models of colon cancer Journal of Neuroinflammation, 2022-08-12;19(1):204. 2022-08-12 [PMID: 35962398]

Palazzo I, Todd LJ, Hoang TV et al. NFkB-signaling promotes glial reactivity and suppresses M□ller glia-mediated neuron regeneration in the mammalian retina Glia 2022-07-01 [PMID: 35388544]

Miao ZF, Sun JX, Huang XZ, Bai S et Al. Metaplastic regeneration in the mouse stomach requires a reactive oxygen species pathway Dev Cell 2024-03-23 [PMID: 38521055]

Cooper AH, Barry AM, Chrysostomidou P et Al. Peripheral nerve injury results in a biased loss of sensory neuron subpopulations Pain 2024-12-01 [PMID: 39158319]

Contreras-Panta, EW;Lee, SH;Won, Y;Norlander, AE;Simmons, AJ;Peebles, RS;Lau, KS;Choi, E;Goldenring, JR; INTERLEUKIN 13 PROMOTES MATURATION AND PROLIFERATION IN METAPLASTIC GASTROIDS Cellular and molecular gastroenterology and hepatology 2024-05-28 [PMID: 38815928]

Asghari Adib E, Shadrach JL, Reilly-Jankowiak L et Al. DLK signaling in axotomized neurons triggers complement activation and loss of upstream synapses Cell Rep 2024-03-07 [PMID: 38363678]

Hu S, Cassim Bawa FN, Zhu Y et al. Loss of adipose ATF3 promotes adipose tissue lipolysis and the development of MASH Communications Biology 2024-10-10 [PMID: 39390075]

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Novus Biologicals USA
10730 E. Briarwood Avenue
Centennial, CO 80112
USA
Phone: 303.730.1950
Toll Free: 1.888.506.6887
Fax: 303.730.1966
nb-customerservice@bio-techne.com

Bio-Techne Canada
21 Canmotor Ave
Toronto, ON M8Z 4E6
Canada
Phone: 905.827.6400
Toll Free: 855.668.8722
Fax: 905.827.6402
canada.inquires@bio-techne.com

Bio-Techne Ltd
19 Barton Lane
Abingdon Science Park
Abingdon, OX14 3NB, United Kingdom
Phone: (44) (0) 1235 529449
Free Phone: 0800 37 34 15
Fax: (44) (0) 1235 533420
info.EMEA@bio-techne.com

General Contact Information
www.novusbio.com
Technical Support: nb-technical@bio-techne.com
Orders: nb-customerservice@bio-techne.com
General: novus@novusbio.com

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