

Product Datasheet

GFAP Antibody NB300-141

Unit Size: 0.05 ml

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

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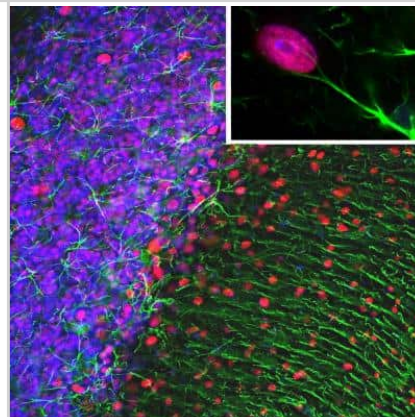
NB300-141

GFAP Antibody

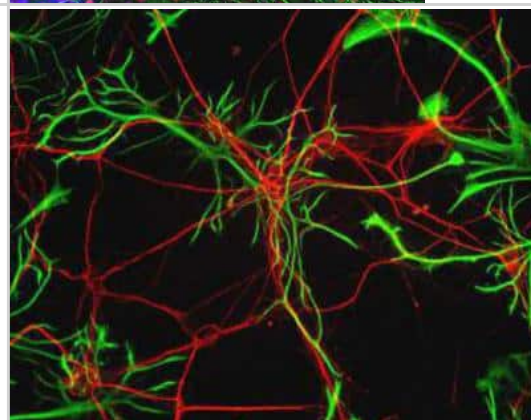
Product Information	
Unit Size	0.05 ml
Concentration	This product is unpurified. The exact concentration of antibody is not quantifiable.
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.035% Sodium Azide
Purity	Unpurified
Buffer	Supplied as serum
Target Molecular Weight	50 kDa
Product Description	
Host	Rabbit
Gene ID	2670
Gene Symbol	GFAP
Species	Human, Mouse, Rat, Porcine, Bovine, Chicken, Equine, Guinea Pig, Rabbit
Reactivity Notes	Predicted to work with most mammals. Chicken reactivity reported in scientific literature (PMID: 20844134). Rabbit and Guinea Pig reactivity reported in scientific literature (PMID: 4559710).
Marker	Astrocyte Marker
Immunogen	This GFAP Antibody was developed against recombinant full length human GFAP isotype 1 expressed in and purified from E. coli.
Product Application Details	
Applications	Western Blot, Simple Western, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin
Recommended Dilutions	Western Blot 1:5000, Simple Western 1:10000, Immunohistochemistry 1:1000 - 1:5000, Immunocytochemistry/ Immunofluorescence 1:1000 - 1:5000, Immunohistochemistry-Paraffin, Immunohistochemistry-Frozen
Application Notes	<p>In WB a band can be seen at 50-55 kDa representing GFAP. A lower band may be seen around 45 kDa representing a proteolytic fragment derived from the GFAP molecule. GFAP antibody validated for IHC-P from a verified customer review. IHC-Fr has been reported in scientific literature (PMID: 28040732).</p> <p>See Simple Western Antibody Database for Simple Western validation: tested in human brain lysate (0.05 mg/ml); separated by size, antibody dilution of 1:10,000; detects a band at 50 kDa; matrix was 12-230 kDa.</p>

Images

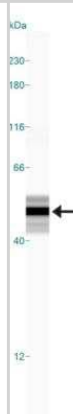
Immunohistochemistry: GFAP Antibody [NB300-141] - Analysis of a rat cerebellum section stained with rabbit polyclonal antibody to GFAP, NB300-141, dilution 1:5000 in green and mouse monoclonal antibody to MeCP2, dilution 1:500, in red. The blue is DAPI staining of nuclear DNA. Following transcardial perfusion of rat with 4% paraformaldehyde, brain was post fixed for 1 hour, cut to 45 μ M, and free-floating sections were stained with above antibodies. The GFAP antibody stains the network of astrocytic cells and the processes of Bergmann glia in the molecular layer. The MeCP2 antibody specifically labels nuclei of certain neurons.



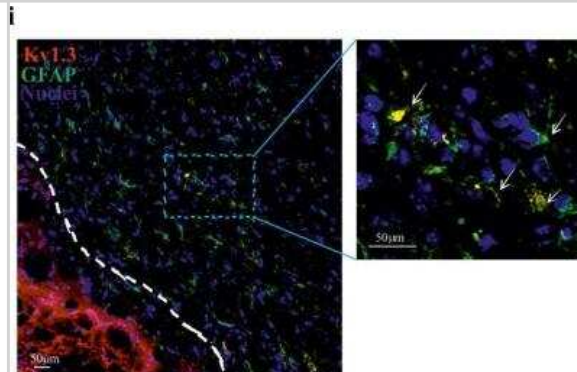
Immunocytochemistry/Immunofluorescence: GFAP Antibody [NB300-141] - Rat neurons stained with Neurofilament Heavy antibody NB300-217 (red) and GFAP antibody NB300-141 (green).



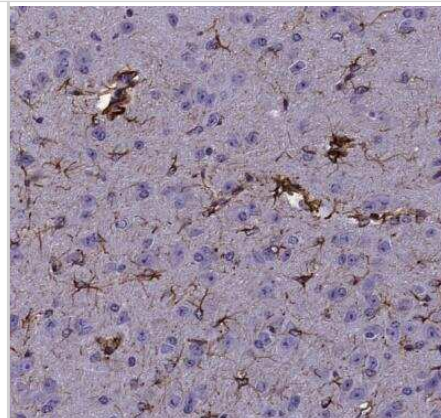
Simple Western: GFAP Antibody [NB300-141] - Simple Western lane view shows a specific band for GFAP in 0.05 mg/mL of Human Brain lysate. This experiment was performed under reducing conditions using the 12-230 kDa separation system.



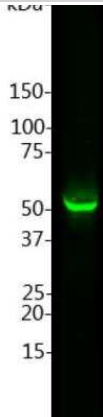
Immunocytochemistry/Immunofluorescence: GFAP Antibody [NB300-141] - The inhibition of Kv1.3 channels induces neuroprotection against the toxic effects of glioma. Immunofluorescence analyses of Kv1.3 expression (red) on GFAP-positive cells (green) in coronal brain slices of GL261-bearing mice in peritumoral region; in the magnification (right) arrows indicate co-expression of Kv1.3 and GFAP in the same cell. Image collected and cropped by CiteAb from the following publication (<https://www.nature.com/articles/s41598-018-25940-5>) licensed under a CC-BY license.



Immunohistochemistry-Paraffin: GFAP Antibody [NB300-141] - Mouse brain section, 20x magnification. Antibody at 1:1000. Detection with Polymer-HRP. IHC image submitted by a verified customer review.



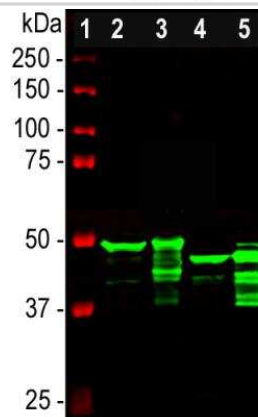
Western Blot: GFAP Antibody [NB300-141] - Analysis of Rat brain lysate. Antibody at 1:5000. Specific band running with an apparent SDS-PAGE molecular weight of ~50 kDa corresponds to rodent GFAP was observed.



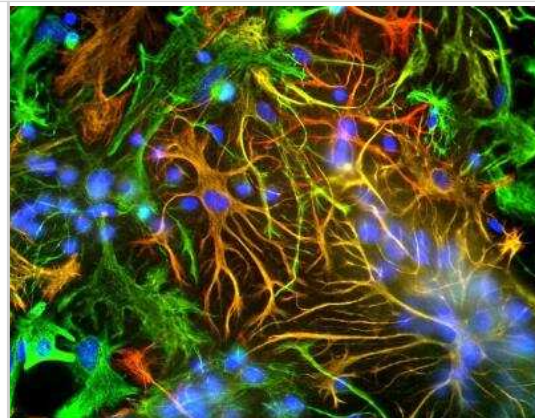
Western Blot: GFAP Antibody [NB300-141] - Analysis of GFAP expression in whole rat cerebellum homogenate.



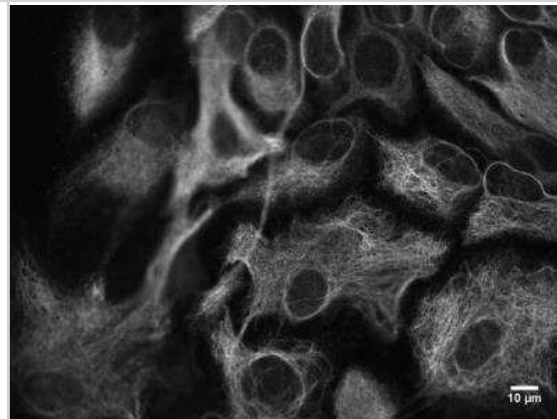
Western Blot: GFAP Antibody [NB300-141] - Analysis of different tissue lysates using rabbit polyclonal antibody to GFAP, NB300-141, dilution 1:5000 in green: [1] protein standard (red), [2] rat brain, [3] rat spinal cord, [4] mouse brain, [5] mouse spinal cord. Strong band at about 50 kDa corresponds to the major isotype of the GFAP protein. Smaller isoforms and proteolytic fragments of GFAP are also detected on the blot.



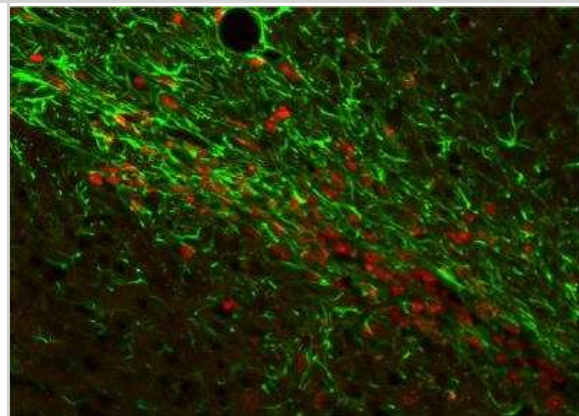
Immunocytochemistry/Immunofluorescence: GFAP Antibody [NB300-141] - Analysis of mixed neuron-glia cultures using GFAP antibody NB300-141 (red) and Vimentin antibody NB300-223 (green). The fibroblastic cells contain only Vimentin and so are green. The astrocytes contain either Vimentin and GFAP (appearing golden) or predominantly GFAP (appearing red). Blue is nuclear DNA stain.



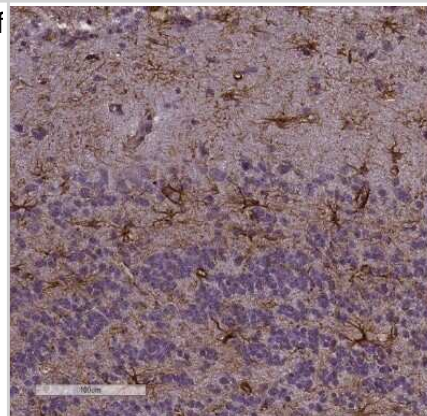
Immunocytochemistry/Immunofluorescence: GFAP Antibody [NB300-141] - Cultured Rat hippocampal neurons. ICC/IF image submitted by a verified customer review.



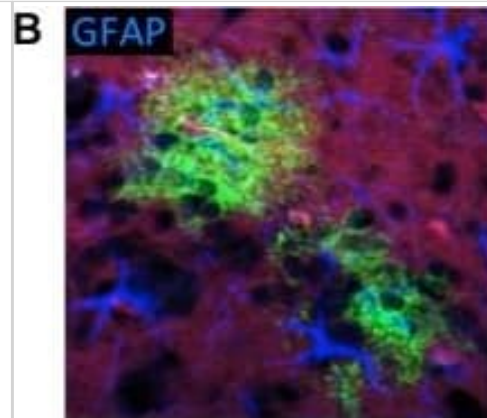
Immunohistochemistry: GFAP Antibody [NB300-141] - Xenografted mouse brain section: astrocyte and human nuclei. ICC/IF image submitted by a verified customer review.



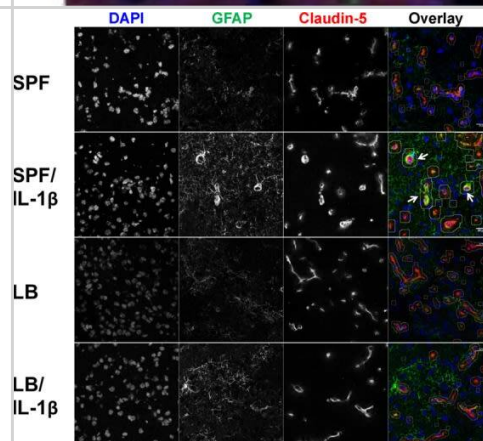
Immunohistochemistry-Frozen: GFAP Antibody [NB300-141] - Imaging of mouse brain (cortex), 20x magnification. IHC image submitted by a verified customer review.



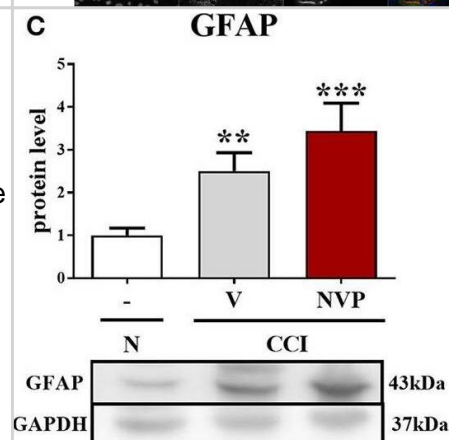
EGFP+ neurons are positive for RABV antigen. Brains were collected from Cre reporter mice fifteen days post-infection, cryosectioned, and EGFP+ regions compared to cell-specific labeling, A) NeuN (blue, neuronal nuclei antibody, 20× fluorescence imaging), B) GFAP (blue, astrocyte antibody, 40× confocal imaging), or C) RABV P antigen (purple) and DAPI nuclear stain (blue, 63× confocal imaging). White arrows in (C) indicate regions positive for RABV P.



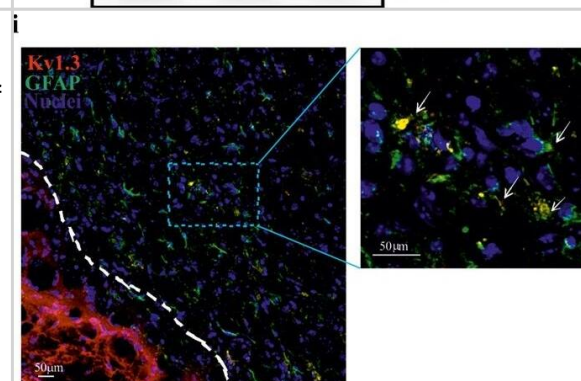
Increased astrocyte activation in IL-1beta-stimulated two-week old offspring is reduced by maternal LB supplementation. Representative images of fluorescence microscopy of claudin-5+ (location of the brain capillaries, red), GFAP+ astrocyte (green), and DAPI (nuclei, blue). Three to five sections per mouse were examined and at least three mice were examined in each group. Stronger than control SPF GFAP staining was observed around the blood vessel (see arrow) after IL-1beta insult. Maternal supplemented group (LB) with or without postnatal insult had GFAP levels similar to the control group indicating that LB supplementation prevented astrocyte activation around the BBB endothelium. Image collected and cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/32424168>), licensed under a CC-BY licence.



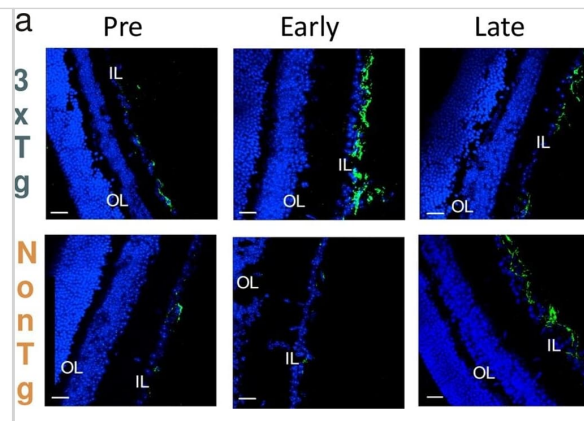
Effects of the repeated administration of NVP CXCR2 20 (NVP; 10 ug/5 ul; i.t.; 16 h and 1 h before CCI and then once a day for 7 days) on the protein levels of CXCR2, IBA1, GFAP, CXCL1, CXCL2, and CXCL3 proteins (A-I) in the spinal cord (A-F) and DRG (G-I) on the 7th day after CCI in rats. The data are presented as the mean fold changes relative to the control +/- SEM (5-6 samples per group). Intergroup differences were analyzed using ANOVA with Bonferroni's multiple comparisons test. *p < 0.05, **p < 0.01, ***p < 0.001 indicate differences vs. naive rats. #p < 0.05, indicate differences between V-treated and NVP-treated rats. CCI, chronic constriction injury; N, naive; V, vehicle; NVP, NVP CXCR2 20. Image collected and cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/31616413>), licensed under a CC-BY licence.



The inhibition of Kv1.3 channels induces neuroprotection against the toxic effects of glioma. (i) Immunofluorescence analyses of Kv1.3 expression (red) on GFAP-positive cells (green) in coronal brain slices of GL261-bearing mice in peritumoral region; in the magnification (right) arrows indicate co-expression of Kv1.3 and GFAP in the same cell. Image collected and cropped by CiteAb from the following publication (<https://www.nature.com/articles/s41598-018-25940-5>), licensed under a CC-BY licence.



Glial cells density is differently modulated during AD progression.^a Retinal slices were immunolabeled with anti-GFAP antibody (green) and Hoechst for nuclei visualization (blue) at different ages of 3xTg-AD and non-Tg mice and density of GFAP signal was quantified as shown in b (**p < 0.01 pre vs early; n = 16 fields/four slices for each condition; two-way ANOVA, Holm-Sidak; ##p < 0.01 for comparison with age-matched non-Tg mice, two-way ANOVA, Holm-Sidak). Image collected and cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/29880901>), licensed under a CC-BY licence.



Publications

Chen Y, Wu XL, Hu HB et al. Neuronal MeCP2 in the dentate gyrus regulates mossy fiber sprouting of mice with temporal lobe epilepsy *Neurobiology of disease* 2023-11-01 [PMID: 37931884] (IHC, Mouse)

Details:

Dilution 1:2000

Tan R, Hu X, Wang X et al. Leptin Promotes the Proliferation and Neuronal Differentiation of Neural Stem Cells through the Cooperative Action of MAPK/ERK1/2, JAK2/STAT3 and PI3K/AKT Signaling Pathways *International journal of molecular sciences* 2023-10-13 [PMID: 37894835] (ICC/IF, Rat)

Richards T, Perron JC, Patel K et al. Therapeutic Intervention of Neuroinflammatory Alzheimer Disease Model by Inhibition of Classical Complement Pathway with the Use of Anti-C1r Loaded Exosomes *Research square* 2023-10-18 [PMID: 37886595] (IHC, Rat)

Details:

ICC/IF dilution 1:200; IHC dilution 1:500

de Paiva I, Silva R, Mendonça I et al. Semaglutide Attenuates Anxious And Depressive-Like Behaviors and Reverses The Cognitive Impairment in a Type 2 Diabetes Mellitus Via The Microbiota-Gut-Brain Axis *Research Square* 2023-09-15 (IHC, Mouse)

Grigorash BB, van Essen D, Liang G et al. p16High senescence restricts cellular plasticity during somatic cell reprogramming *Nature cell biology* 2023-09-01 [PMID: 37652981] (IHC-P, Mouse)

Details:

1:1000 IHC-P dilution

Teng Y, Liu Z, Chen X et al. Conditional deficiency of m6A methyltransferase Mettl14 in substantia nigra alters dopaminergic neuron function *Journal of Cellular and Molecular Medicine* 2021-09-01 [PMID: 34288397] (WB)

Kanaya A, Yang M, Emala C, Mikami M. Chronic allergic lung inflammation negatively influences neurobehavioral outcomes in mice *Journal of Neuroinflammation* 2022-08-31 [PMID: 36045388] (B/N, WB)

Schröter M, Wang C, Terrigno M et al. Functional imaging of brain organoids using high-density microelectrode arrays *MRS Bulletin* 2022-06-30 [PMID: 36120104]

Di Martino R, Sisalli MJ, Sirabella R et al. Ncx3-Induced Mitochondrial Dysfunction in Midbrain Leads to Neuroinflammation in Striatum of A53t- τ -Synuclein Transgenic Old Mice *International Journal of Molecular Sciences* 2021-07-30 [PMID: 34360942] (WB)

Benton KC, Wheeler DS, Kurtoglu B et al. Norepinephrine activates $\alpha(1)$ -adrenergic receptors at the inner nuclear membrane in astrocytes *Glia* 2022-09-01 [PMID: 35589612] (WB, ICC/IF, B/N)

Sun Z, Cheng Z, Gong N et al. Neural presbycusis at ultra-high frequency in aged common marmosets and rhesus monkeys *Aging (Albany NY)* 2021-05-15 [PMID: 33909598] (B/N)

Williams EP, Xue Y, Lee J et al. Deep spatial profiling of Venezuelan equine encephalitis virus reveals increased genetic diversity amidst neuroinflammation and cell death during brain infection *Journal of Virology* 2023-08-31 [PMID: 37560924]

More publications at <http://www.novusbio.com/NB300-141>



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Products Related to NB300-141

NBL1-11043	GFAP Overexpression Lysate
HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
H00002670-P01-2ug	Recombinant Human GFAP GST (N-Term) Protein

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