Product Datasheet

Choline Acetyltransferase/ChAT Antibody
NBP1-30052

Unit Size: 0.1 ml

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

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NBP1-30052

Choline Acetyltransferase/ChAT Antibody

Product Information

Unit Size	0.1 ml
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	0.2% Sodium Azide
Isotype	IgG
Purity	Affinity purified
Buffer	PBS and 5 mg/ml BSA
Target Molecular Weight	70 kDa

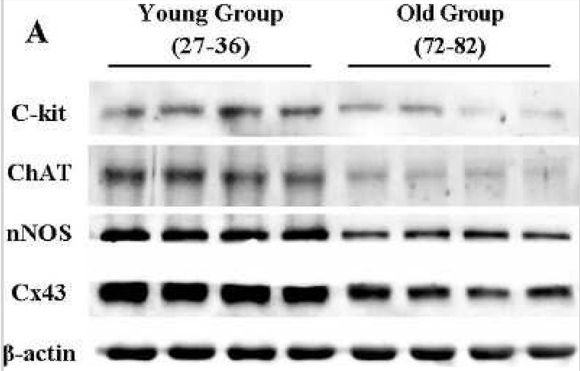
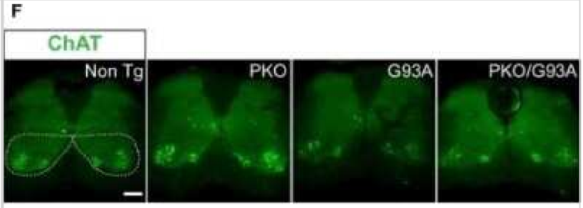
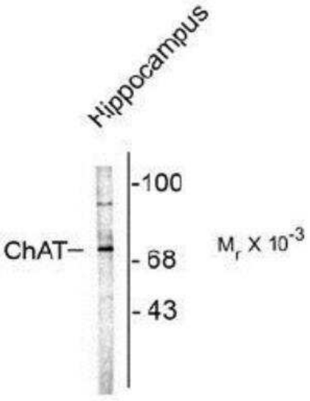
Product Description

Description	Recommended that the undiluted antibody be aliquoted into smaller working volumes (10-30 uL/vial depending on usage).
Host	Goat
Gene ID	1103
Gene Symbol	CHAT
Species	Human, Mouse, Rat, Chicken, Guinea Pig, Primate
Marker	Cholinergic Neuronal Marker
Specificity/Sensitivity	Specific for endogenous levels of the ~70 kDa Choline Acetyltransferase/ChAT protein.
Immunogen	Native choline acetyltransferase purifed from human placenta

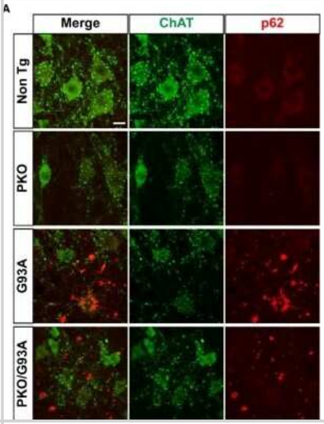
Product Application Details

Applications	Western Blot, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin, Immunohistochemistry Free-Floating, Immunohistochemistry Whole-Mount
Recommended Dilutions	Western Blot 1:100, Immunohistochemistry 1:100, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry-Paraffin 1:10-1:500, Immunohistochemistry-Frozen, Immunohistochemistry Free-Floating, Immunohistochemistry Whole-Mount
Application Notes	Use in Immunohistochemistry-Frozen reported in scientific literature (PMID 21912682) Use in Immunohistochemistry-whole mount reported in scientific literature (PMID 24630395). ICC/IF reported in scientific literature (PMID 23095258). Use in Immunohistochemistry-free floating reported in scientific literature (PMID: 30261285).

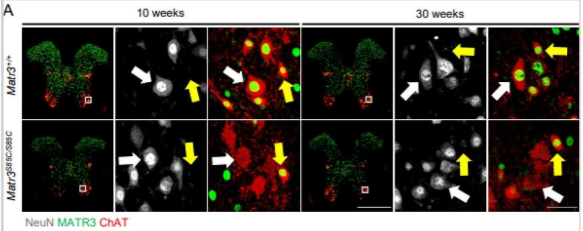
Images

Western Blot: Choline Acetyltransferase/ChAT Antibody [NBP1-30052] - The decrease in protein expressions of c-kit, Choline Acetyltransferase/ChAT, nNOS and Cx43 in the colon of elderly humans. Expressions of c-kit, ChAT, nNOS and Cx43 proteins in colonic muscle layers detached from youth and older adults were examined by western blotting (n=4 per group), and similar reduction was observed. Image collected and cropped by CiteAb from the following publication (//pubmed.ncbi.nlm.nih.gov/30530917/) licensed under a CC-BY license.	
Immunocytochemistry/Immunofluorescence: Choline Acetyltransferase/ChAT Antibody [NBP1-30052] - Representative images of lumbar spinal cord sections at 130 days immunostained with Choline Acetyltransferase/ChAT. Scale bar, 200 um. Image collected and cropped by CiteAb from the following publication (https://embomolmed.embopress.org/lookup/doi/10.15252/emmm.201808888), licensed under a CC-BY license.	
Immunohistochemistry-Paraffin: Choline Acetyltransferase/ChAT Antibody [NBP1-30052] - Rat brainstem showing specific labeling using the anti-ChAT antibody. Image courtesy of Dr. Robert Sloviter, University of Arizona.	
Western Blot: Choline Acetyltransferase/ChAT Antibody [NBP1-30052] - Rat brain lysate showing specific immunolabeling of the ~70k ChAT.	

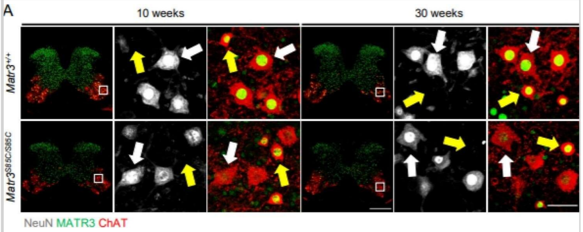
Immunocytochemistry/Immunofluorescence: Choline Acetyltransferase/ChAT Antibody [NBP1-30052] - Immunostaining of anterior horn of lumbar spinal cord for Choline Acetyltransferase/ChAT (in green) and p62 (in red) at 130 days. Scale bar, 10 um. Image collected and cropped by CiteAb from the following publication (https://embomolmed.embopress.org/lookup/doi/10.15252/emmm.201808888), licensed under a CC-BY license.



Immunocytochemistry/ Immunofluorescence: Choline Acetyltransferase/ChAT Antibody [NBP1-30052] - MATR3 loss in α-motor neurons & interneurons in the thoracic spinal cord of Matr3S85C/S85C mice. (A) Representative images of 10 & 30 weeks thoracic spinal cord staining for α-motor neurons (ChAT+, NeuN+, denoted by white arrows) & γ-motor neurons (Chat+, NeuN−, denoted by yellow arrows). Scale bar for the spinal cord image denotes 500 μm & the zoomed-in image denotes 50 μm. Quantification of the percentage of motor neurons with reduced MATR3 staining in (B) α-motor neurons (10 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C; 30 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C) & (C) γ-motor neurons (10 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C; 30 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C). Quantification of the number of (D) α-motor neurons (10 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C; 30 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C) & (E) γ-motor neurons (10 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C; 30 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C). (F) Representative images of 10 & 30 weeks PVALB+ interneurons in the thoracic spinal cord. Interneurons with reduced MATR3 staining are denoted by a white asterisk. Scale bar denotes 50 μm. (G) Quantification of the percentage of PVALB+ interneurons with reduced MATR3 staining (10 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C; 30 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C). (H) Quantification of the number of PVALB+ interneurons (10 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C; 30 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C). Bar graph heights depict mean ± SEM, with each datapoint representing an animal. * $p < 0.05$, *** $p < 0.001$, **** $p < 0.0001$, ns = not significant. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/35205163), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Immunocytochemistry/ Immunofluorescence: Choline Acetyltransferase/ChAT Antibody [NBP1-30052] - MATR3 loss in α-motor neurons & interneurons in the cervical spinal cord of Matr3S85C/S85C mice. (A) Representative images of 10 & 30 weeks cervical spinal cord staining for α-motor neurons (ChAT+, NeuN+, denoted by white arrows) & γ-motor neurons (ChAT+, NeuN−, denoted by yellow arrows). Scale bar for the spinal cord image denotes 500 µm & the zoomed-in image denotes 50 µm. Quantification of the percentage of motor neurons with reduced MATR3 staining in (B) α-motor neurons (10 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C; 30 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C) & (C) γ-motor neurons (10 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C; 30 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C). Quantification of the number of (D) α-motor neurons (10 weeks: n = 6 Matr3+/+, 3 Matr3S85C/S85C; 30 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C) & (E) γ-motor neurons (10 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C; 30 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C). (F) Representative images of 10 & 30 weeks PVALB+ interneurons in the cervical spinal cord. Interneurons with reduced MATR3 staining are denoted by a white asterisk. Scale bar denotes 50 µm. (G) Quantification of the percentage of PVALB+ interneurons with reduced MATR3 staining (10 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C; 30 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C). (H) Quantification of the number of PVALB+ interneurons (10 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C; 30 weeks: n = 3 Matr3+/+, 3 Matr3S85C/S85C). Bar graph heights depict mean ± SEM, with each datapoint representing an animal. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, **** $p < 0.0001$, ns = not significant. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/35205163), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Cover KK, Gyawali U, Kerkhoff WG et al. Activation of the Rostral Intralaminar Thalamus Drives Reinforcement through Striatal Dopamine Release Cell Rep 2019-02-05 [PMID: 30726725]

Patlin B, Schwerdtfeger L, Tobet S Neuropeptide stimulation of physiological and immunological responses in precision-cut lung slices Physiological reports 2023-11-01 [PMID: 37994278]

Li Z, Wang Y, Jiang Y et al. Xiao-Qing-Long-Tang Maintains Cardiac Function during Heart Failure with Reduced Ejection Fraction in Salt-Sensitive Rats by Regulating the Imbalance of Cardiac Sympathetic Innervation Evidence-Based Complementary and Alternative Medicine 2020-11-24 [PMID: 33628295] (Electron Microscopy)

Radzimirska M, Kuchinka J, Nowak E et al. Cholinergic and adrenergic innervation of the pancreas in chinchilla (Chinchilla Laniger Molina) Folia Histochemica et Cytobiologica 2020-04-09 [PMID: 32202307] (Immunohistochemistry)

Liu S, Xiang K, Yuan F, Xiang M Generation of self-organized autonomic ganglion organoids from fibroblasts iScience 2023-03-01 [PMID: 36922996]

Wang J, Xu L, Peng D et al. IFN-?-STAT1-mediated CD8+ T-cell-neural stem cell cross talk controls astrogliogenesis after spinal cord injury Inflammation and regeneration 2023-02-13 [PMID: 36782279] (IHC, ICC/IF, Mouse)

Yao Y, Wang J, He T et al. Microarray assay of circular RNAs reveals cicRNA.7079 as a new anti-apoptotic molecule in spinal cord injury in mice Brain Res Bull 2020-09-04 [PMID: 32882320]

You J, Maksimovic K, Lee J et al. Selective Loss of MATR3 in Spinal Interneurons, Upper Motor Neurons and Hippocampal CA1 Neurons in a MATR3 S85C Knock-In Mouse Model of Amyotrophic Lateral Sclerosis Biology 2022-02-12 [PMID: 35205163] (IF/IHC, Mouse)

Radzimirska M, Kuchinka J, Kuder T Et al. Distribution and neurochemical characteristic of the cardiac nerve structures in the heart of chinchilla (Chinchilla laniger Molina) Folia histochemica et cytobiologica 2021-09-28 [PMID: 34581422]

Tassone A, Martella G, Meringolo M et al. Vesicular Acetylcholine Transporter Alters Cholinergic Tone and Synaptic Plasticity in DYT1 Dystonia Movement disorders : official journal of the Movement Disorder Society 2021-06-26 [PMID: 34173686]

Rotheneichner P, Belles M, Benedetti B et al. Cellular Plasticity in the Adult Murine Piriform Cortex: Continuous Maturation of Dormant Precursors Into Excitatory Neurons Cereb. Cortex 2018-04-21 [PMID: 29688272] (IF/IHC, Mouse)

Stanic J, Mellone M, Napolitano F et al. Rabphilin 3A: A novel target for the treatment of levodopa-induced dyskinesias Neurobiol. Dis. 2017-08-18 [PMID: 28823933] (IF/IHC, Rat)

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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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NB410-28088-1mg	Goat IgG Isotype Control
H00001103-Q01-10ug	Recombinant Human Choline Acetyltransferase/ChAT GST (N-Term) Protein

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