

Anti-Choline Acetyltransferase/CHAT Antibody Picoband®

Catalog Number: A01192-4

About CHAT

Choline acetyltransferase (commonly abbreviated as ChAT, but sometimes CAT) is a transferase enzyme responsible for the synthesis of the neurotransmitter acetylcholine. In humans, the choline acetyltransferase enzyme is encoded by the CHAT gene. This gene product is a characteristic feature of cholinergic neurons, and changes in these neurons may explain some of the symptoms of Alzheimer's disease.

Polymorphisms in this gene have been associated with Alzheimer's disease and mild cognitive impairment. Mutations in this gene are associated with congenital myasthenic syndrome associated with episodic apnea. Multiple transcript variants encoding different isoforms have been found for this gene, and some of these variants have been shown to encode more than one isoform.

Overview

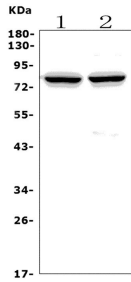
Product Name	Anti-Choline Acetyltransferase/CHAT Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Choline Acetyltransferase/CHAT Antibody Picoband® catalog # A01192-4. Tested in ELISA, Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	ELISA, Flow Cytometry, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P28329

Technical Details

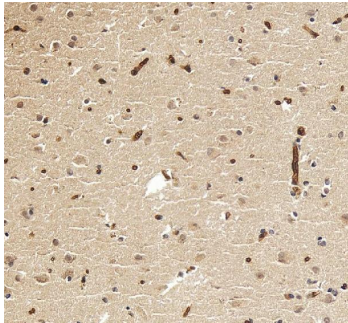
Immunogen	E.coli-derived human Choline Acetyltransferase/CHAT recombinant protein (Position: T25-K731).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and ICC.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized

Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.25-0.5ug/ml, Human Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human Immunocytochemistry/Immunofluorescence, 2ug/ml, Human Flow Cytometry (Fixed), 1-3ug/1x10 ⁶ cells, Human ELISA, 0.1-0.5ug/ml, -

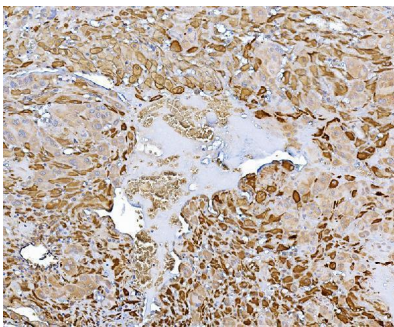
Anti-Choline Acetyltransferase/CHAT Antibody Picoband® (A01192-4) Images



Western blot analysis of CHAT using anti-CHAT antibody (A01192-4). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: human placenta whole cell lysates, Lane 2: human U-87MG tissue lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-CHAT antigen affinity purified polyclonal antibody (Catalog # A01192-4) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for CHAT at approximately 83KD. The expected band size for CHAT is at 83KD.

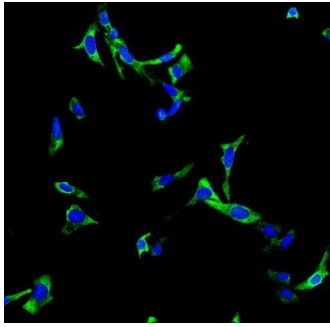


IHC analysis of CHAT using anti-CHAT antibody (A01192-4). CHAT was detected in a paraffin-embedded section of human brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-CHAT Antibody (A01192-4) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

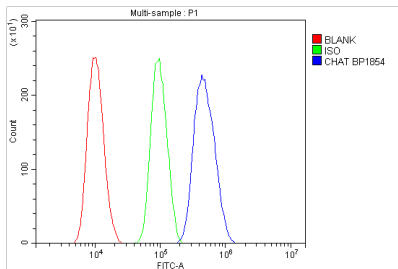


IHC analysis of CHAT using anti-CHAT antibody (A01192-4). CHAT was detected in paraffin-embedded section of human placenta tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-CHAT Antibody (A01192-4) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

IF analysis of CHAT using anti-CHAT antibody (A01192-4). CHAT was detected in immunocytochemical section of U20S cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 2ug/mL rabbit anti-CHAT Antibody (A01192-4) overnight at 4°C. DyLight®488 conjugated Goat



Anti-Rabbit IgG (BA1127) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Flow Cytometry analysis of SiHa cells using anti-CHAT antibody (A01192-4). Overlay histogram showing SiHa cells stained with A01192-4 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CHAT Antibody (A01192-4, 1 μ g/1 \times 10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 μ g/1 \times 10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 μ g/1 \times 10⁶) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

3 Publications Citing This Product

1. PubMed ID: 10.1155/2021/9974625, Icarin Promotes Survival, Proliferation, and Differentiation of Neural Stem Cells In Vitro and in a Rat Model of Alzheimer's Disease
2. PubMed ID: 10.1007/s12031-018-1098-y, Pre-Injection of Small Interfering RNA (siRNA) Promotes c-Jun Gene Silencing and Decreases the Survival Rate of Axotomy-Injured Spinal Motoneurons in Adult Mice
3. PubMed ID: 21674199, Wu R, Gu B, Zhao X, Tan Z, Chen L, Zhu J, Zhang M. Hum Cell. 2013 Mar;26(1):19-27. Doi: 10.1007/S13577-011-0022-3. Epub 2011 Jun 15. Derivation Of Multipotent Nestin(+)/Cd271 (-)/Stro-1 (-) Mesenchymal-Like Precursors From Human Embryonic Stem Cel...

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