BOSTER BIOLOGICAL TECHNOLOGY
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888-466-3604 | support@bosterbio.com | www.bosterbio.com

Anti-Cathepsin B/CTSB Antibody Picoband®

Catalog Number: A01456-3

About CTSB

Cathepsin B is an enzymatic protein belonging to the peptidase or protease families. In humans, it is coded by the CTSB gene. And this gene is mapped to chromosome 8p22. The protein encoded by this gene is a lysosomal cysteine proteinase composed of a dimer of disulfide-linked heavy and light chains, both produced from a single protein precursor. It is a member of the peptidase C1 family. Cathepsin B was once suspected as a candidate protease participating in the conversion of beta-amyloid precursor protein into the amyloid plaques found in Alzheimer's disease patients. However, this function is now known to be mediated by BACE1 protease. It is now thought that cathepsin B can degrade beta-amyloid precursor protein into harmless fragments. Thus, it is conceivable cathepsin B may play a pivotal role in the natural defense against Alzheimer's disease. Overexpression of cathepsin B has been associated with esophageal adenocarcinoma and other tumors. At least five transcript variants encoding the same protein have been found for this gene. The standard product used in this kit is recombinant human Cathepsin B with the molecular mass of 37KDa.

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Overview

Product Name	Anti-Cathepsin B/CTSB Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Cathepsin B/CTSB Antibody Picoband® catalog # A01456-3. Tested in ELISA, Flow Cytometry, IHC, 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, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
Storage Instructions	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 freezing and thawing.
Host	Rabbit
Uniprot ID	P07858

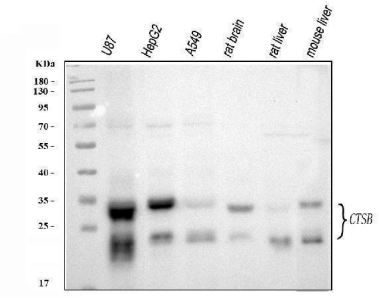
Technical Details

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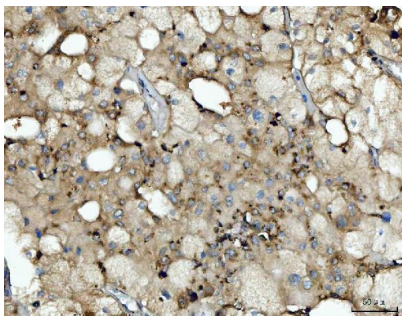
Immunogen	E.coli-derived human Cathepsin B/CTSB recombinant protein (Position: Q42-K339).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross 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, 0.25-0.5 ug/ml, Human, Mouse, Rat Immunohistochemistry(Paraffin-embedded Section), 2-5 ug/ml, Human, Mouse, Rat Flow Cytometry (Fixed), 1-3 ug/1x10^6 cells, Human ELISA, 0.1-0.5 ug/ml, - Note: For flow cytometry (FCM), suitable for fixed cells only. Not suitable for FACS or surface flow cytometry using live cells.

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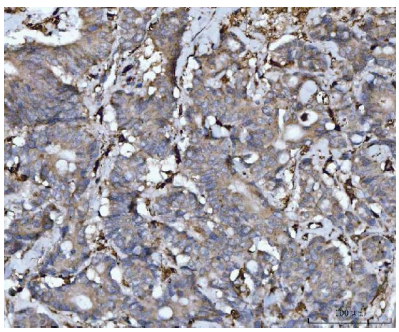
Anti-Cathepsin B/CTSB Antibody Picoband® (A01456-3) Images



Western blot analysis of Cathepsin B/CTSB using anti-Cathepsin B/CTSB antibody (A01456-3). 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 30 ug of sample under reducing conditions. Lane 1: human U87 whole cell lysates, Lane 2: human HepG2 whole cell lysates, Lane 3: human A549 whole cell lysates, Lane 4: rat brain tissue lysates, Lane 5: rat liver tissue lysates, Lane 6: mosue liver tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA 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-Cathepsin B/CTSB antigen affinity purified polyclonal antibody (Catalog # A01456-3) 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 Cathepsin B/CTSB at approximately 23,31 kDa. The expected band size for Cathepsin B/CTSB is at 38 kDa.

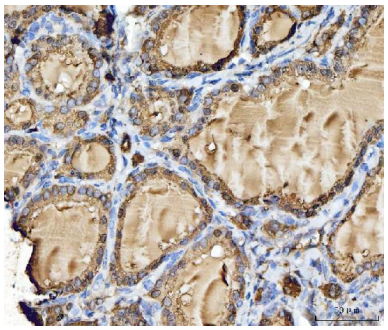


IHC analysis of Cathepsin B/CTSB using anti-Cathepsin B/CTSB antibody (A01456-3). Cathepsin B/CTSB was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-Cathepsin B/CTSB Antibody (A01456-3) 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.

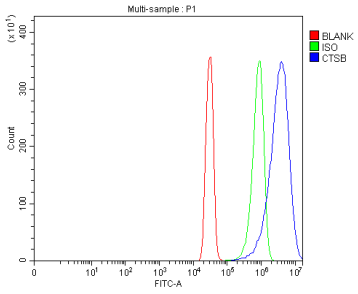


IHC analysis of Cathepsin B/CTSB using anti-Cathepsin B/CTSB antibody (A01456-3). Cathepsin B/CTSB was detected in a paraffin-embedded section of human rectal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-Cathepsin B/CTSB Antibody (A01456-3) 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.

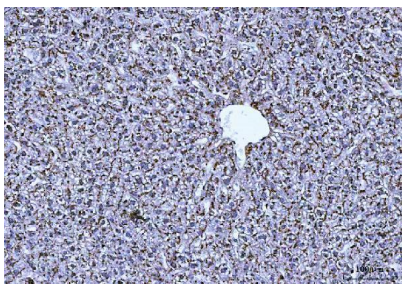
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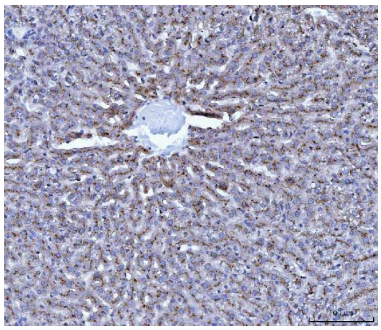
IHC analysis of Cathepsin B/CTSB using anti-Cathepsin B/CTSB antibody (A01456-3). Cathepsin B/CTSB was detected in a paraffin-embedded section of human thyroid cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-Cathepsin B/CTSB Antibody (A01456-3) 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.



Flow Cytometry analysis of SiHa cells using anti-Cathepsin B/CTSB antibody (A01456-3). Overlay histogram showing SiHa cells stained with A01456-3 (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-Cathepsin B/CTSB Antibody (A01456-3, 1 ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



IHC analysis of Cathepsin B/CTSB using anti-Cathepsin B/CTSB antibody (A01456-3). Cathepsin B/CTSB was detected in a paraffin-embedded section of mouse liver 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-Cathepsin B/CTSB Antibody (A01456-3) 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 Cathepsin B/CTSB using anti-Cathepsin B/CTSB antibody (A01456-3). Cathepsin B/CTSB was detected in a paraffin-embedded section of rat liver 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-Cathepsin B/CTSB Antibody (A01456-3) 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.

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