BOSTER
antibody and ELISA experts

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Anti-Cathepsin D/CTSD Antibody Picoband™

Catalog Number: PB9048

About Ctsd

Cathepsin D is a protein that in humans is encoded by the CTSD gene. This proteinase is a member of the peptidase C1 family, having a specificity similar to but narrower than that of pepsin A. It is mapped to 11p15.5. The cDNA encodes a 412-amino acid protein with 20 and 44 amino acids in a pre- and prosegment, respectively. Cathepsin D is one of the lysosomal proteinases. It is ubiquitously expressed and is involved in proteolytic degradation, cell invasion, and apoptosis. Mutations in this gene are involved in the pathogenesis of several diseases, including breast cancer and possibly Alzheimer disease and it has been considered as a breast cancer tumor marker.

Overview

Product Name	Anti-Cathepsin D/CTSD Antibody Picoband™
Reactive Species	Mouse, Rat
Description	Boster Bio Anti-Cathepsin D/CTSD Antibody Picoband™ catalog # PB9048. Tested in IF, IHC, ICC, WB applications. This antibody reacts with Mouse, Rat.
Application	IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
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	P18242

Technical Details

Immunogen	E.coli-derived mouse Cathepsin D recombinant protein (Position: E65-L410). Mouse Cathepsin D shares 85% and 91% amino acid (aa) sequences identity with human and rat Cathepsin D, respectively.
Predicted Reactive Species	Bovine, Horse
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

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Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Dilute the sample so that the expected range of concentrations fall within the detection range of this kit. If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples. Some PubMed article(s) citing the expression level of this target are as follows: Boster Bio's internal QC testing used: Western blot, 0.1-0.5ug/ml, Mouse Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Mouse, Rat, By Heat Immunocytochemistry/Immunofluorescence, 5 ug/ml, Mouse

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Anti-Cathepsin D/CTSD Antibody Picoband™ (PB9048) Images

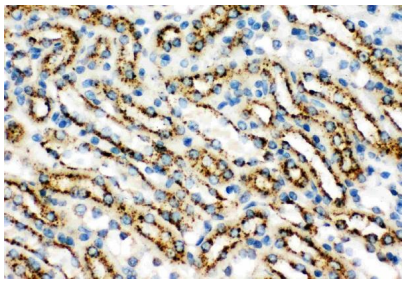

Figure 1. IHC analysis of Cathepsin D using anti-Cathepsin D antibody (PB9048).
Cathepsin D was detected in paraffin-embedded section of Mouse Kidney Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Cathepsin D Antibody (PB9048) 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 Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

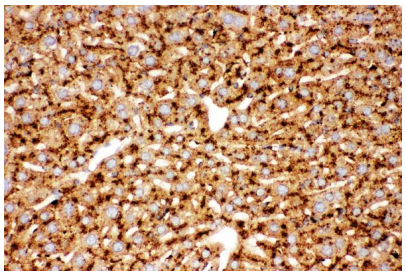

Figure 2. IHC analysis of Cathepsin D using anti-Cathepsin D antibody (PB9048).
Cathepsin D was detected in paraffin-embedded section of Mouse Liver Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Cathepsin D Antibody (PB9048) 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 Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

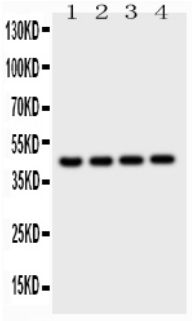

Figure 3. Western blot analysis of Cathepsin D using anti-Cathepsin D antibody (PB9048).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: Mouse Liver Tissue Lysate
Lane 2: Mouse Brain Tissue Lysate
Lane 3: Mouse Thymus Tissue Lysate
Lane 4: NEURO Whole Cell Lysate
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-Cathepsin D antigen affinity purified polyclonal antibody (Catalog # PB9048) 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 1:10000 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 D at approximately 45KD. The expected band size for Cathepsin D is at 45KD.

Figure 4. IHC analysis of Cathepsin D using anti-Cathepsin D

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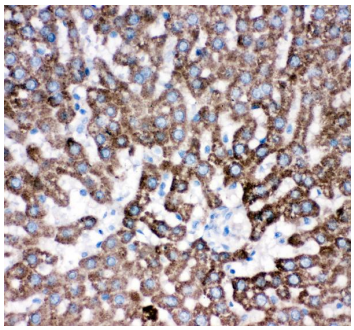

antibody (PB9048).
Cathepsin D was detected in paraffin-embedded section of rat liver tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Cathepsin D Antibody (PB9048) 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 Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

2 Publications Citing This Product

1. PubMed ID: 33203874, Ma WQ,Sun XJ,Zhu Y,Liu NF. PDK4 promotes vascular calcification by interfering with autophagic activity and metabolic reprogramming. Cell Death Dis.2020 Nov 17;11(11):991.doi:10.1038/s41419-020-03162-w. PMID:33203874;PMCID:PMC7673024.

2. PubMed ID: 27310928, Inhibition of autophagosome-lysosome fusion by ginsenoside Ro via the ESR2-NCF1-ROS pathway sensitizes esophageal cancer cells to 5-fluorouracil-induced cell death via the CHEK1-mediated DNA damage checkpoint

Visit bosterbio.com/anti-cathepsin-d-picoband-trade-antibody-pb9048-boster.html to see all 2 publications.