

Anti-Cathepsin K/CTSK Antibody Picoband™

Catalog Number: PB9856

About CTSK

Cathepsin K, abbreviated CTSK, is an enzyme that in humans is encoded by the CTSK gene. It is mapped to 1q21. The protein encoded by this gene is a lysosomal cysteine protease involved in bone remodeling and resorption. And this protein, which is a member of the peptidase C1 protein family, is expressed predominantly in osteoclasts. Additionally, the enzyme's ability to catabolize elastin, collagen, and gelatin allow it to break down bone and cartilage. This catabolic activity is also partially responsible for the loss of lung elasticity and recoil in emphysema. Cathepsin K inhibitors, such as odanacatib, show great potential in the treatment of osteoporosis. Cathepsin K is degraded by Cathepsin S, called Controlled Cathepsin Cannibalism.

Overview

Product Name	Anti-Cathepsin K/CTSK Antibody Picoband™
Reactive Species	Human
Description	Boster Bio Anti-Cathepsin K/CTSK Antibody Picoband™ catalog # PB9856. Tested in IHC, WB applications. This antibody reacts with Human.
Application	IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 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	P43235

Technical Details

Immunogen	E. coli-derived human Cathepsin K recombinant protein (Position: A115-M329). Human Cathepsin K shares 86.9% and 88.8% amino acid (aa) sequence identity with mouse and rat Cathepsin K, respectively.
Predicted Reactive Species	Bovine
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	<p>Dilute the sample so that the expected range of concentrations fall within the detection range of this kit.</p> <p>If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.</p> <p>Some PubMed article(s) citing the expression level of this target are as follows:</p> <p>Boster Bio's internal QC testing used:</p> <p>Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, By Heat</p> <p>Western blot, 0.1-0.5ug/ml, Human</p>

Anti-Cathepsin K/CTSK Antibody Picoband™ (PB9856) Images



Figure 1. Western blot analysis of Cathepsin K using anti-Cathepsin K antibody (PB9856). 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: HELA whole cell lysates,
Lane 2: 22RV1 whole cell 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 K antigen affinity purified polyclonal antibody (Catalog # PB9856) 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 K at approximately 45 kDa. The expected band size for Cathepsin K is at 40 kDa.

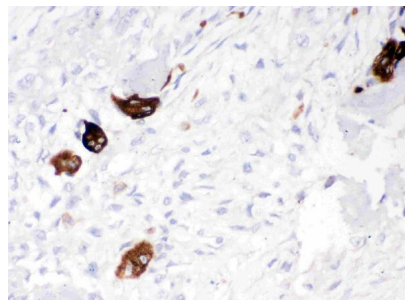


Figure 2. IHC analysis of Cathepsin K using anti-Cathepsin K antibody (PB9856).

Cathepsin K was detected in a paraffin-embedded section of human osteosarcoma 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 1 ug/ml rabbit anti-Cathepsin K Antibody (PB9856) 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.

2 Publications Citing This Product

1. PubMed ID: 10.1016/j.trsl.2020.04.011, Cathepsin B deficiency ameliorates liver lipid deposition, inflammatory cell infiltration, and fibrosis after diet-induced nonalcoholic steatohepatitis
2. PubMed ID: 28199984, Wang J, You H, Qi J, Yang C, Ren Y, Cheng H. Oncotarget. 2017 Mar 7;8(10):17012-17026. doi: 10.18632/oncotarget.15222. Autocrine and paracrine STIP1 signaling promote osteolytic bone metastasis in renal cell carcinoma

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