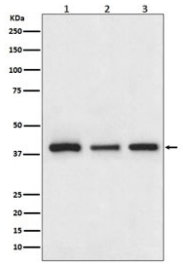
# Cathepsin L/V/K/H Antibody [clone AACD-3] (RQ5182)

| Catalog No. | Formulation | Size |
|---|---|---|
| RQ5182 | Antibody in PBS with 0.02% sodium azide, 50% glycerol and 0.4-0.5mg/ml BSA | 100 ul |

**Bulk quote request**

| | |
|---|---|
| **Availability** | 1-2 weeks |
| **Species Reactivity** | Human, Mouse, Rat |
| **Format** | Purified |
| **Host** | Rabbit |
| **Clonality** | Rabbit Monoclonal |
| **Isotype** | Rabbit IgG |
| **Clone Name** | AACD-3 |
| **Purity** | Affinity purified |
| **UniProt** | P07711 |
| **Applications** | Western blot: 1:500-1:2000 |
| **Limitations** | This Cathepsin L/V/K/H antibody is available for research use only. |




Cathepsin L/V/K/H Antibody WB. Western blot testing of 1) human HepG2, 2) mouse NIH3T3 and 3) rat PC-12 cell lysate with Cathepsin L/V/K/H antibody.

## Description

Cathepsin L (CTSL), Cathepsin V (CTSV), Cathepsin K (CTSK), and Cathepsin H (CTSH) are members of the lysosomal cysteine protease family that collectively regulate intracellular protein degradation, extracellular matrix remodeling, and proteolytic processing in normal physiology and disease. The Cathepsin L/V/K/H Antibody is designed to detect this group of closely related proteases, enabling evaluation of lysosomal protease activity and coordinated cathepsin expression across tissues and experimental systems. These enzymes are synthesized as inactive proenzymes and undergo proteolytic maturation within acidic lysosomal compartments to generate active forms that participate in protein turnover

and cellular homeostasis.

The Cathepsin L/V/K/H antibody, also referred to as CTSL antibody, CTSV antibody, CTSK antibody, and CTSH antibody in the literature, recognizes proteases that share conserved structural features, including catalytic cysteine residues and substrate-binding domains that enable broad proteolytic activity. Cathepsin L and Cathepsin V exhibit strong endopeptidase activity and are involved in antigen processing, epithelial remodeling, and tumor progression. Cathepsin K is distinguished by its potent collagenolytic activity and is highly expressed in osteoclasts, where it mediates degradation of bone matrix. Cathepsin H functions primarily as an aminopeptidase, contributing to protein processing and turnover within lysosomes.

This Cathepsin L/V/K/H Antibody is uniquely positioned for studies requiring simultaneous assessment of multiple lysosomal proteases involved in overlapping biological pathways. In immunohistochemistry and immunofluorescence applications, these cathepsins are typically observed as punctate cytoplasmic staining patterns consistent with lysosomal localization. In western blot analysis, multiple bands corresponding to precursor and processed forms may be detected, reflecting enzyme maturation and activation states. These features provide insight into lysosomal function, protease activity, and protein processing dynamics within cells.

Expression of Cathepsin L, V, K, and H varies across tissues and cell types, reflecting their specialized and overlapping roles. CTSL and CTSV are commonly expressed in epithelial and immune-related tissues, CTSK is highly enriched in osteoclasts and bone-associated cells, and CTSH is broadly expressed with roles in general protein turnover. Dysregulation of these proteases is implicated in cancer, inflammatory diseases, osteoporosis, and neurodegenerative disorders, where altered protease activity contributes to tissue remodeling, invasion, and disease progression.

This Cathepsin L/V/K/H Antibody supports investigation of lysosomal protease networks, enabling analysis of coordinated enzyme activity and functional interplay among multiple cathepsins. It is suitable for detecting these proteases in research applications focused on intracellular degradation pathways, extracellular matrix remodeling, and disease-associated changes in lysosomal function.

This antibody is part of a broader antibody panel offered by NSJ Bioreagents.

## Application Notes

Optimal dilution of the Cathepsin L/V/K/H antibody should be determined by the researcher.

## Immunogen

A synthetic peptide common to human Cathepsin L/V/K/H was used as the immunogen for the Cathepsin L/V/K/H antibody.

## Storage

Store the Cathepsin L/V/K/H antibody at -20oC.


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