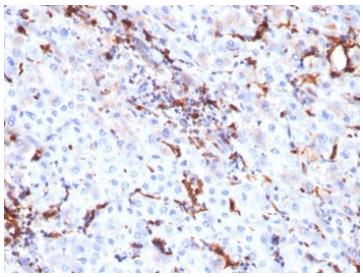
Cathepsin K Antibody / CTSK Lysosomal Protease Antibody [clone CTSK/2791] (V7477)

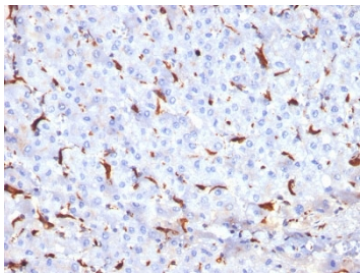
Catalog No.	Formulation	Size
V7477-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V7477-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V7477SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V7477IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

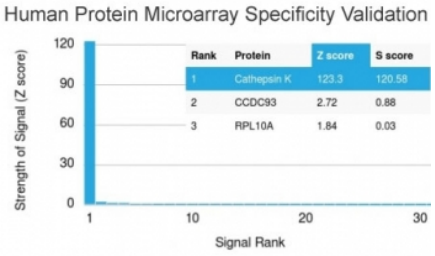
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	CTSK/2791
Purity	Protein G affinity chromatography
UniProt	P43235
Localization	Cytoplasmic
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT Prediluted IHC only format: incubate for 30 min at RT (1)
Limitations	This Cathepsin K Antibody / CTSK Lysosomal Protease Antibody is available for research use only.



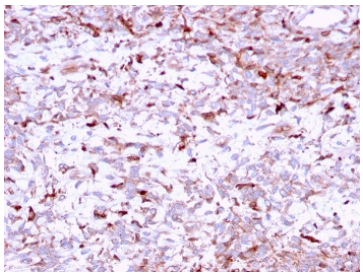
Cathepsin K Lysosomal Protease Antibody Liver Tissue IHC. Immunohistochemistry analysis of FFPE human liver tissue using Cathepsin K Antibody (clone CTSK/2791) shows focal granular cytoplasmic staining in scattered cells, consistent with CTSK / Cathepsin K localization in lysosomal compartments. The punctate staining pattern reflects lysosomal protease distribution associated with tissue remodeling activity, while hepatocytes show comparatively low background staining. Hematoxylin counterstain provides nuclear contrast and structural context. HIER: boil FFPE tissue sections in pH 6, 10 mM citrate buffer, for 10-20 min followed by cooling at RT for 20 min.



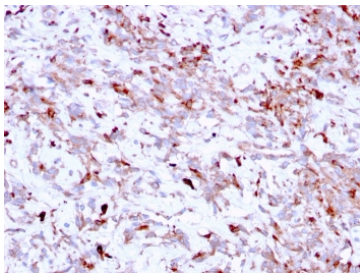
Cathepsin K Lysosomal Protease Antibody Hepatic Tissue IHC. Immunohistochemistry analysis of FFPE human liver tissue using Cathepsin K Antibody (clone CTSK/2791) shows scattered granular cytoplasmic staining in discrete cell populations, consistent with CTSK / Cathepsin K localization in lysosomal compartments. The punctate staining pattern reflects localized protease activity associated with tissue remodeling, while surrounding hepatocytes display minimal background signal. Hematoxylin counterstain provides nuclear contrast and architectural detail. HIER: boil FFPE tissue sections in pH 6, 10 mM citrate buffer, for 10-20 min followed by cooling at RT for 20 min.



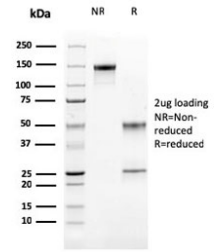
Cathepsin K Lysosomal Protease Antibody HuProt Microarray Specificity. Protein microarray analysis using Cathepsin K Antibody (clone CTSK/2791) demonstrates highly specific binding to CTSK / Cathepsin K, with the target protein ranked as the top hit and showing a strong Z score relative to all other proteins on the array. Signal intensity drops sharply for non-target proteins, supporting selective recognition with minimal off-target interaction. Z score represents the strength of signal in standard deviations above the mean of all array signals, while S score reflects the separation between the top-ranked target and the next highest signal, indicating relative specificity.



Cathepsin K Lysosomal Protease Antibody Liver Parenchyma IHC. Immunohistochemistry analysis of FFPE human liver tissue using Cathepsin K Antibody (clone CTSK/2791) shows scattered granular cytoplasmic staining in discrete cell populations within the hepatic parenchyma, consistent with CTSK / Cathepsin K localization in lysosomal compartments. The punctate pattern reflects localized protease activity associated with tissue remodeling, while hepatocytes display comparatively low background staining. Hematoxylin counterstain provides nuclear contrast and structural detail. HIER: boil FFPE tissue sections in pH 6, 10 mM citrate buffer, for 10-20 min followed by cooling at RT for 20 min.



Cathepsin K Lysosomal Protease Antibody Hepatic Stromal Region IHC. Immunohistochemistry analysis of FFPE human liver tissue using Cathepsin K Antibody (clone CTSK/2791) shows granular cytoplasmic staining in scattered stromal and sinusoidal-associated cells, consistent with CTSK / Cathepsin K localization in lysosomal compartments. The punctate staining pattern reflects localized protease activity linked to tissue remodeling, while adjacent hepatocytes exhibit relatively low background signal. Hematoxylin counterstain provides nuclear contrast and architectural context. HIER: boil FFPE tissue sections in pH 6, 10 mM citrate buffer, for 10-20 min followed by cooling at RT for 20 min.



SDS-PAGE analysis of purified, BSA-free Cathepsin K antibody (clone CTSK/2791) as confirmation of integrity and purity.

Description

Cathepsin K (CTSK) is a lysosomal cysteine protease that plays a central role in extracellular matrix degradation, particularly in the breakdown of collagen during bone resorption. The Cathepsin K Antibody / CTSK Lysosomal Protease Antibody is widely used to detect this enzyme in biological systems where proteolytic activity is associated with osteoclast function, tissue remodeling, and disease processes. CTSK is encoded on chromosome 1q21 and belongs to the papain-like cysteine protease family, characterized by potent collagenolytic activity under acidic conditions within lysosomal and resorptive microenvironments.

The Cathepsin K antibody, also referred to as CTSK antibody and osteoclast cathepsin K antibody in the literature, recognizes a protein that is synthesized as a proenzyme and undergoes proteolytic processing to generate an active mature form. This activation occurs within lysosomes or specialized resorption lacunae, where Cathepsin K degrades type I collagen and other matrix proteins. The enzymeÃ¢Â€Â™s ability to efficiently cleave triple-helical collagen distinguishes it from other cathepsins and underlies its critical role in skeletal biology.

This Cathepsin K Antibody / CTSK Lysosomal Protease Antibody is uniquely positioned for studies of bone remodeling and matrix degradation. In immunohistochemistry, CTSK is typically observed as granular cytoplasmic staining in osteoclasts and other cells involved in tissue turnover, reflecting its localization within lysosomal compartments. Detection of CTSK provides insight into protease activity associated with bone resorption, inflammatory responses, and pathological remodeling processes.

Cathepsin K is highly expressed in osteoclasts, where it contributes to normal bone turnover by degrading organic bone matrix. Dysregulation of CTSK activity is associated with diseases such as osteoporosis, osteoarthritis, and metastatic bone disease, as well as genetic disorders such as pycnodysostosis. In addition to skeletal tissues, CTSK expression has been reported in certain epithelial and tumor contexts, where it may contribute to extracellular matrix remodeling and tumor invasion.

The mouse monoclonal clone CTSK/2791 provides consistent and specific detection of CTSK, supported by protein microarray specificity validation data demonstrating selective binding to the intended target. This Cathepsin K Antibody / CTSK Lysosomal Protease Antibody is suitable for detecting CTSK expression in research applications where lysosomal protease activity, collagen degradation, and tissue remodeling are of interest. Its performance supports detailed evaluation of CTSK biology across normal and disease-associated contexts.

This Cathepsin K Antibody / CTSK Lysosomal Protease Antibody supports investigation of lysosomal protease activity, extracellular matrix degradation, and disease-associated changes in CTSK expression.

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

Application Notes

Optimal dilution of the Cathepsin K Antibody / CTSK Lysosomal Protease Antibody to be determined by the researcher.

1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

A portion of amino acids 163-274 from the human protein was used as the immunogen for the Cathepsin K antibody.

Storage

Store the Cathepsin K antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

Cathepsin K antibody, CTSK antibody, Cathepsin K protease antibody, CTSK collagenase antibody, Osteoclast cathepsin K antibody

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