abcam

ab270999

Anti-proCathepsin D antibody [EPR24352-13]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR24352-13
Purification technique	Affinity purification Protein A
Concentration	0.574 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

IHC-Fr

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Target data

See full target information Ctsd

Function	Acid protease active in intracellular protein breakdown. Plays a role in APP processing following cleavage and activation by ADAM30 which leads to APP degradation.

Storage

Shipped at conditions	Conditional Ambient

Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Procathepsin D also known as CTSD is a precursor form of the enzyme Cathepsin D. It has a molecular mass of approximately 52 kDa. Procathepsin D is an aspartic protease expressed mainly in lysosomes but also found in many tissues like liver spleen and the endometrium. Its precursor form undergoes post-translational modification to become active involving the removal of its propeptide segment.
Biological function summary	This protease plays significant roles in protein degradation and processing within lysosomes. Procathepsin D remains part of lysosomal enzyme complexes influencing lysosomal balance and turnover of proteins. It contributes to the regulation of cell growth apoptosis and protein activation. Also it impacts antigen presentation and immunity showing importance in cellular maintenance and function.
Pathways	Procathepsin D participates in the lysosomal degradation pathway impacting autophagy and proteostasis. It interfaces with kinases and caspases routing signaling and apoptosis pathways. Through the lysosomal protein pathway it relates to proteins like Cathepsin B and L which also deal with proteolysis.

	Procathepsin D's degradation function influences metabolic processes interconnected with the immune response and tissue remodeling.
Associated diseases and disorders	Procathepsin D shows connections to breast cancer and Alzheimer's disease. Elevated levels have been observed in breast cancer linking it with tumor progression where it may interact with proteins like cathepsin B. In Alzheimer's disease altered procathepsin D activity affects amyloid processing and neuroinflammation associating closely with proteins like amyloid precursor protein (APP) and other cathepsins involved in neurodegenerative processes.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

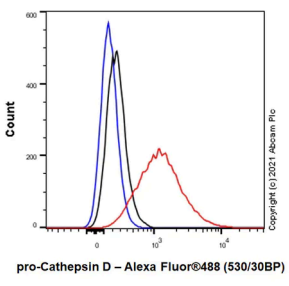
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

4 product images

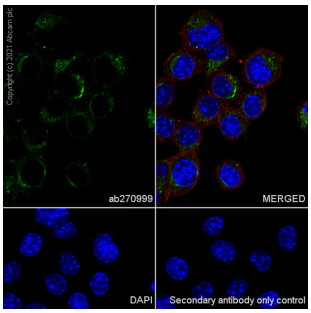


Flow Cytometry (Intracellular) - Anti-proCathepsin D antibody [EPR24352-13] (ab270999)

ProCathepsin D Flow Cytometry (Intracellular) staining using rabbit Anti-proCathepsin D antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Neuro-2a (Mouse neuroblastoma neuroblast) cells labelling pro-Cathepsin D with ab270999 at 1/50 dilution (1µg) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody)

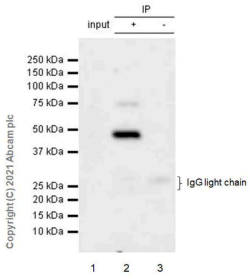
(Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-proCathepsin D antibody [EPR24352-13] (ab270999)

ProCathepsin D Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-proCathepsin D antibody

Immunofluorescent analysis of 100% methanol-fixed, 0.1% Triton X-100 permeabilized Neuro-2a cells labelling pro-Cathepsin D with ab270999 at 1/50 (11.48 µg/ml) dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing cytoplasmic staining in Neuro-2a cells. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.



Immunoprecipitation - Anti-proCathepsin D antibody [EPR24352-13] (ab270999)

pro-Cathepsin D was immunoprecipitated from 0.35 mg RAW 264.7 (mouse abelson murine leukemia virus-induced tumor macrophage) whole cell lysate 10 µg with ab270999 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab270999 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.
Lane 1: RAW 264.7 whole cell lysate 10 µg

Lane 2: ab270999 IP in RAW 264.7 whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab270999 in RAW 264.7 whole cell lysate

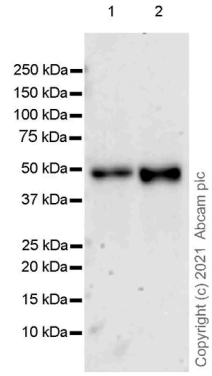
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 67 seconds

All lanes:
Immunoprecipitation - Anti-proCathepsin D antibody [EPR24352-13] (ab270999)

Predicted band size: 45 kDa

Observed band size: 48 kDa



Western blot - Anti-proCathepsin D antibody [EPR24352-13] (ab270999)

ProCathepsin D Western blot staining using rabbit Anti-proCathepsin D antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
The molecular weight observed is consistent with what has been described in the literature (PMID: 28453791).

Exposure time: 3 minutes

All lanes:
Western blot - Anti-proCathepsin D antibody [EPR24352-13] (ab270999) at 1/1000 dilution

Lane 1:
RAW 264.7 (mouse abelson murine leukemia virus-induced tumor macrophage) whole cell lysate at 20 µg

Lane 2:
Neuro-2a (mouse neuroblastoma neuroblast) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 45 kDa

Observed band size: 48 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.