abcam

ab206472

Anti-proCathepsin D antibody [EPR3054] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR3054
Purification technique	Affinity purification Protein A
Dissociation constant	1.16 x 10^{-10} M
Concentration	1.029 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human

Dilution info	-
Notes	-

IHC-P

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
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 (PubMed:27333034). Involved in the pathogenesis of several diseases such as breast cancer and possibly Alzheimer disease.

Storage

Shipped at conditions	Blue Ice

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab206472 is the carrier-free version of ab134169.

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

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

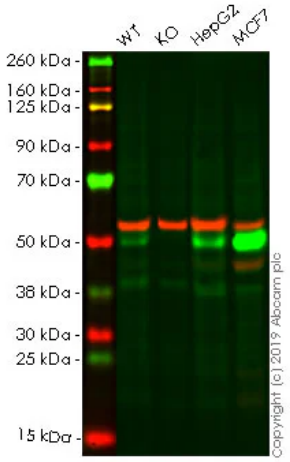
We do not recommend this combination. It is not covered by our product promise.

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.

1 product image



Western blot - Anti-proCathepsin D antibody [EPR3054] - BSA and Azide free (ab206472)

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

Lanes 1 - 4: Merged signal (red and green). Green - ab134169 observed at 46 kDa. Red - loading control, ab8245, observed at 37 kDa.
ab134169 was shown to recognize in wild-type MCF7 cells as signal was lost at the expected MW in HepG2 knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and HepG2 knockout samples were subjected to SDS-PAGE. The membrane was blocked with 3% NF Milk. ab134169 and ab8245 (Mouse anti GAPDH loading control) were incubated overnight at 4°C at 1/2000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab134169).

All lanes:
Western blot - Anti-proCathepsin D antibody [EPR3054] (ab134169) at 1/2000 dilution

Lane 1:
Wild-type A-431 (Human epidermoid carcinoma cell line) whole cell lysate at 40 µg

Lane 2:
Western blot - Human CTSD knockout A-431 cell lysate (ab261700) at 40 µg

Lane 3:
Hep G2 (Human liver hepatocellular carcinoma cell line) whole cell lysate at 40 µg

Lane 4:
MCF7 (Human breast adenocarcinoma cell line) whole cell lysate at 40 µg

Performed under reducing conditions.

Predicted band size: 44 kDa, 45 kDa

Observed band size: 46 kDa

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