Anti-Cathepsin D Antibody [SU0360] - BSA and Azide free

HA750152

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IHC-P, IP
Molecular Wt:	Predicted band size: 45/28 kDa
Clone number:	SU0360

Description: Cathepsin D is a protein that in humans is encoded by the CTSD gene. This gene encodes a lysosomal aspartyl protease composed of a protein dimer of disulfide-linked heavy and light chains, both produced from a single protein precursor. Cathepsin D is an aspartic endo-protease that is ubiquitously distributed in lysosomes. The main function of cathepsin D is to degrade proteins and activate precursors of bioactive proteins in pre-lysosomal compartments. This proteinase, which is a member of the peptidase A1 family, has a specificity similar to but narrower than that of pepsin A. Transcription of the CTSD gene is initiated from several sites, including one that is a start site for an estrogen-regulated transcript. Mutations in this gene are involved in the pathogenesis of several diseases, including breast cancer and possibly Alzheimer disease. Homozygous deletion of the CTSD gene leads to early lethality in the postnatal phase. Deficiency of CTSD gene has been reported an underlying cause of neuronal ceroid lipofuscinosis (NCL).

Immunogen: Synthetic peptide within Human Cathepsin D aa 363-412 / 412.

Positive control: HepG2 cell lysate, MCF7 cell lysate, Neuro-2a cell lysate, Mouse brain tissue lysate, C6 cell lysate, Rat brain tissue lysate, human breast cancer tissue, human pancreas tissue, PANC-1, AGS.

Subcellular location: Extracellular space, Lysosome, Melanosome.

Database links: SwissProt: P07339 Human | P18242 Mouse | P24268 Rat

Recommended Dilutions:

WB	1:1,000-1:2,000
IF-Cell	1:100-1:500
IHC-P	1:3,000
IP	Use at an assay dependent concentration.

Storage Buffer: PBS (pH7.4).

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃ or -80℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

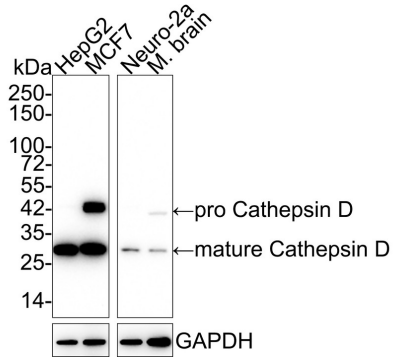

Fig1: Western blot analysis of Cathepsin D on different lysates with Rabbit anti-Cathepsin D antibody (HA750152) at 1/2,000 dilution.

Lane 1: HepG2 cell lysate (15 µg/Lane)
Lane 2: MCF7 cell lysate (15 µg/Lane)
Lane 3: Neuro-2a cell lysate (15 µg/Lane)
Lane 4: Mouse brain tissue lysate (20 µg/Lane)

Predicted band size: 45/28 kDa
Observed band size: 45/28 kDa

Exposure time: 3 minutes; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA750152) at 1/2,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

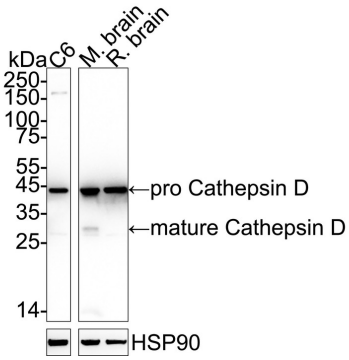

Fig2: Western blot analysis of Cathepsin D on different lysates with Rabbit anti-Cathepsin D antibody (HA750152) at 1/1,000 dilution.

Lane 1: C6 cell lysate (20 µg/Lane)
Lane 2: Mouse brain tissue lysate (20 µg/Lane)
Lane 3: Rat brain tissue lysate (20 µg/Lane)

Predicted band size: 45/28 kDa
Observed band size: 45/28 kDa

Exposure time: 6 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA750152) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

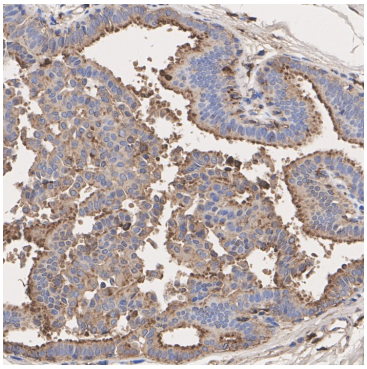

Fig3: Immunohistochemical analysis of paraffin-embedded human breast cancer tissue with Rabbit anti-Cathepsin D antibody (HA750152) at 1/3,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA750152) at 1/3,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

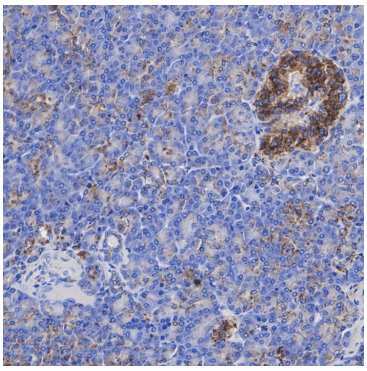

Fig4: Immunohistochemical analysis of paraffin-embedded human pancreas tissue with Rabbit anti-Cathepsin D antibody (HA750152) at 1/3,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA750152) at 1/3,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

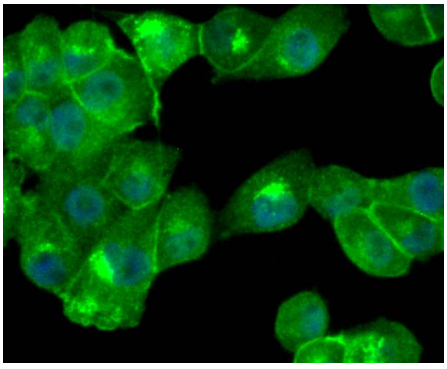

Fig5: ICC staining of Cathepsin D in PANC-1 cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 1% Blocker BSA for 15 minutes at room temperature. Cells were probed with the primary antibody (HA750152, 1/50) for 1 hour at room temperature, washed with PBS. Alexa Fluor®488 Goat anti-Rabbit IgG was used as the secondary antibody at 1/1,000 dilution. The nuclear counter stain is DAPI (blue).

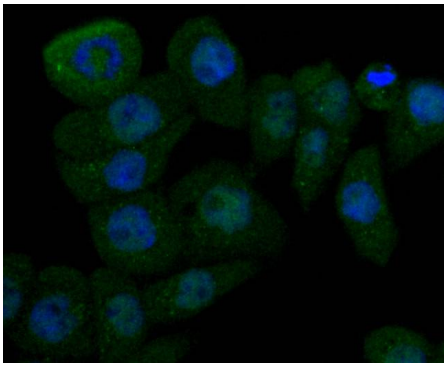

Fig6: ICC staining of Cathepsin D in AGS cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 1% Blocker BSA for 15 minutes at room temperature. Cells were probed with the primary antibody (HA750152, 1/50) for 1 hour at room temperature, washed with PBS. Alexa Fluor®488 Goat anti-Rabbit IgG was used as the secondary antibody at 1/1,000 dilution. The nuclear counter stain is DAPI (blue).

Background References

1. Santaguida S et al. Aneuploidy-induced cellular stresses limit autophagic degradation. Genes Dev 29:2010-21 (2015).
2. Shen C et al. Global profiling of proteolytically modified proteins in human metastatic hepatocellular carcinoma cell lines reveals CAPN2 centered network. Proteomics 12:1917-27 (2012).