Anti-Cathepsin B Antibody [J11-A11]

M1506-1

Product Type:	Mouse monoclonal IgG1, primary antibodies
Species reactivity:	Human, Zebrafish, Mouse, Rat
Applications:	WB, IF-Cell
Molecular Wt:	Predicted band size: 38 kDa
Clone number:	J11-A11

Description: Cathepsin B is an enzymatic protein belonging to the peptidase (or protease) families. In humans, it is coded by the CTSB gene. A wide array of diseases results in elevated levels of cathepsin B, which causes numerous pathological processes including cell death, inflammation, and production of toxic peptides. Focusing on neurological diseases, cathepsin B gene knockout studies in an epileptic rodent model have shown cathepsin B causes a significant amount of the apoptotic cell death that occurs as a result of inducing epilepsy. Mutations in the CTSB gene have been linked to tropical pancreatitis, a form of chronic pancreatitis

Immunogen: Synthetic peptide within human Cathepsin B aa 300-338/338.

Positive control: SW480 cell lysate, RAW264.7 cell lysate, PC-12 cell lysate, SW480, PC-12.

Subcellular location: Lysosome, Melanosome, Secreted, Apical cell membrane.

Database links: SwissProt: P07858 Human | P10605 Mouse | P00787 Rat

Recommended Dilutions:

WB	1:1,000
IF-Cell	1:50-1:500

Storage Buffer: 1*PBS (pH7.4), 0.2% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

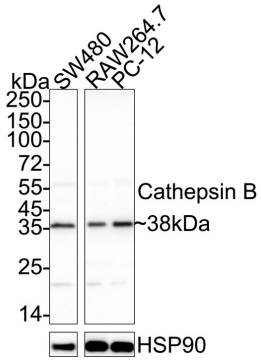

Fig1: Western blot analysis of Cathepsin B on different lysates with Mouse anti-Cathepsin B antibody (M1506-1) at 1/1,000 dilution.

Lane 1: SW480 cell lysate
Lane 2: RAW264.7 cell lysate
Lane 3: PC-12 cell lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 38 kDa
Observed band size: 38 kDa

Exposure time: 59 seconds; ECL: K1802;

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 (M1506-1) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1/50,000 dilution was used for 1 hour at room temperature.

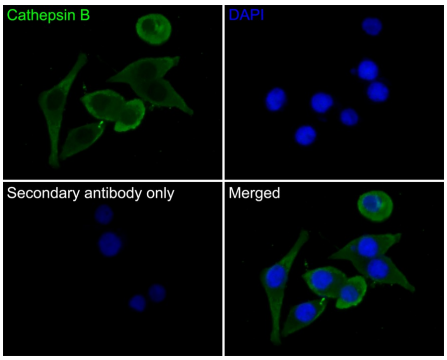

Fig2: Immunocytochemistry analysis of SW480 cells labeling Cathepsin B with Mouse anti-Cathepsin B antibody (M1506-1) at 1/50 dilution.

Cells were fixed in 4% paraformaldehyde for 30 minutes, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes, and then blocked with 2% BSA for 30 minutes at room temperature. Cells were then incubated with Mouse anti-Cathepsin B antibody (M1506-1) at 1/50 dilution in 2% BSA overnight at 4 ℃. Goat Anti-Mouse IgG H&L (iFluor™ 488, HA1125) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

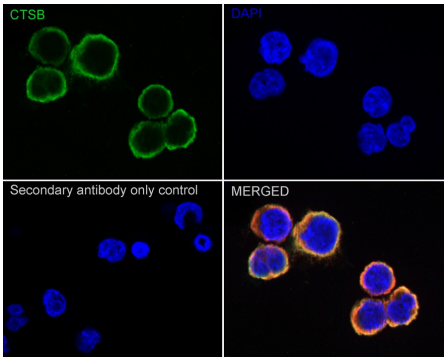

Fig3: Immunocytochemistry analysis of PC-12 cells labeling Cathepsin B with Mouse anti-Cathepsin B antibody (M1506-1) at 1/250 dilution.

Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Mouse anti-Cathepsin B antibody (M1506-1) at 1/250 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Mouse IgG H&L (iFluor™ 488, HA1125) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

beta Tubulin (ET1602-4, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Rabbit IgG H&L (iFluor™ 594, HA1122) were used as the secondary antibody at 1/1,000 dilution.

Background References

1. Tandon RK (January 2007). "Tropical pancreatitis". J. Gastroenterol. 42 (Suppl 17): 141–7.
2. Klein, D.M.; Felsentein, K.M.; Brenneman, D.E. (2009). "Cathepsins B and L differentially regulate amyloid precursor protein processing". J Pharmacol Exp Ther 329 (3): 813–21.
3. Kindy, M.S.; Yu, J.; Zhu, H.; El-Amouri, S.S.; Hook, V.; Hook, G.R. (2012). "Deletion of the Cathepsin B Gene Improves Memory Deficits in a Transgenic Alzheimer's Disease Mouse Model Expressing AbetaPP Containing the Wild-Type beta-Secretase Site Sequence". J Alzheimers Dis 29 (4): 827–40.