

Rabbit CLPB Polyclonal Antibody | anti-CLPB antibody

Anti-CLPB Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA125677	Rabbit	Human, Mouse, Rat, Monkey	ELISA, Flow Cytometry, Functional Assay, Immunofluorescence, Immunocytochemistry, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

CLPB; Polyclonal Antibody; Anti-CLPB Antibody; Caseinolytic peptidase B protein homolog; Suppressor of potassium transport defect 3; HSP78; SKD3; caseinolytic mitochondrial matrix peptidase chaperone subunit B; anti-CLPB antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat, Monkey
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Rabbit IgG polyclonal antibody for CLPB detection.
Purity/Purification	Immunogen affinity purified.
Form/Format	Lyophilized. Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.01mg NaN3.
Applicable Applications for anti-CLPB antibody	ELISA (Direct ELISA), FCM/FACS (Flow Cytometry), IF (Immunofluorescence), ICC (Immunocytochemistry), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	E Coli-derived human CLPB recombinant protein (Position: Q438-I707).
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.
Recommended Detection Systems	Recommended Detection Systems
Preparation and Storage	Store at -20 degree C for one year. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for a longer time. Avoid repeated freezing and thawing.



WB (Western Blot)

Figure 1. Western blot analysis of CLPB using anti-CLPB antibody (AAA125677).Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.Lane 1: human HEK293 whole cell lysatesLane 2: huamn SW620 whole cell lysatesLane 3: huamn 22RV1 whole cell lysatesLane 4: huamn THP-1 whole cell lysatesLane 5: human SGC-7901 whole cell lysatesLane 6: monkey COS-7 whole cell lysatesLane 7: rat kidney tissue lysatesLane 8: mouse heart tissue lysatesLane 9: mouse HEPA1-6 whole cell lysates,After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1. 5 hour at RT. The membrane was incubated with rabbit anti-CLPB antigen affinity purified polyclonal antibody (Catalog # AAA125677) at 0. 5 μg/mL overnight at 4 degree C, then washed with TBS-0. 1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1. 5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for CLPB at approximately 70KD. The expected band size for CLPB is at 70KD.



FCM/FACS (Flow Cytometry)

Figure 5. Flow Cytometry analysis of K562 cells using anti-CLPB antibody (AAA125677).Overlay histogram showing K562 cells stained with AAA125677 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-CLPB Antibody (AAA125677,1μg/1x106 cells) for 30 min at 20 degree C. DyLight®488 conjugated goat anti-rabbit IgG (5-10μg/1x106 cells) was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was rabbit IgG (1μg/1x106) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



IHC (Immunohistochemistry)

Figure 4. IF analysis of CLPB using anti-CLPB antibody (AAA125677).CLPB was detected in immunocytochemical section of A549 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 4μg/mL rabbit anti-CLPB Antibody (AAA125677) overnight at 4 degree C. DyLight®488 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37 degree C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



IHC (Immunohistochemistry)

Figure 3. IHC analysis of CLPB using anti-CLPB antibody (AAA125677).CLPB was detected in paraffin-embedded section of human rectal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8. 0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1μg/ml rabbit anti-CLPB Antibody (AAA125677) overnight at 4 degree C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.



IHC (Immunohistochemistry)

Figure 2. IHC analysis of CLPB using anti-CLPB antibody (AAA125677).CLPB was detected in paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8. 0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1μg/ml rabbit anti-CLPB Antibody (AAA125677) overnight at 4 degree C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

ADDITIONAL INFORMATION

Related Product Information for anti-CLPB antibody

This gene belongs to the ATP-ases associated with diverse cellular activities (AAA+) superfamily. Members of this superfamily form ring-shaped homo-hexamers and have highly conserved ATPase domains that are involved in various processes including DNA replication, protein degradation and reactivation of misfolded proteins. All members of this family hydrolyze ATP through their AAA+ domains and use the energy generated through ATP hydrolysis to exert mechanical force on their substrates. In addition to an AAA+ domain, the protein encoded by this gene contains a C-terminal D2 domain, which is characteristic of the AAA+ subfamily of Caseinolytic peptidases to which this protein belongs. It cooperates with Hsp70 in the disaggregation of protein aggregates. Allelic variants of this gene are associated with 3-methylglutaconic aciduria, which causes cataracts and neutropenia. Alternative splicing results in multiple transcript variants.

References	1. Capo-Chichi, J. -M., Boissel, S., Brustein, E., Pickles, S., Fallet-Bianco, C., Nassif, C., Patry, L., Dobrzeniecka, S., Liao, M., Labuda, D., Samuels, M. E., Hamdan, F. F., Vande Velde, C., Rouleau, G. A., Drapeau, P., Michaud, J. L. Disruption of CLPB is associated with congenital microcephaly, severe encephalopathy and 3-methylglutaconic aciduria. J. Med. Genet. 52: 303-311, 2015. 2. Haslberger, T., Zdanowicz, A., Brand, I., Kirstein, J., Turgay, K., Mogk, A., Bukau, B. Protein disaggregation by the AAA+ chaperone ClpB involves partial threading of looped polypeptide segments. Nature Struct. Molec. Biol. 15: 641-650, 2008. 3. Saunders, C., Smith, L., Wibrand, F., Ravn, K., Bross, P., Thiffault, I., Christensen, M., Atherton, A., Farrow, E., Miller, N., Kingsmore, S. F., Ostergaard, E. CLPB variants associated with autosomal-recessive mitochondrial disorder with cataract, neutropenia, epilepsy, and methylglutaconic aciduria. Am. J. Hum. Genet. 96: 258-265, 2015.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	385719194
NCBI GeneID	81570
NCBI Accession #	NP_001245321.1
NCBI GenBank Nucleotide #	NM_001258392.2
UniProt Accession #	Q9H078; Q8ND11; Q9H8Y0; B4DXJ7; B4DXP7; B4DXW4; E7EWN6; F8W7P6
Molecular Weight	57,664 Da
NCBI Official Full Name	caseinolytic peptidase B protein homolog isoform 2
NCBI Official Synonym Full Names	ClpB homolog, mitochondrial AAA ATPase chaperonin
NCBI Official Symbol	CLPB
NCBI Official Synonym Symbols	SKD3; HSP78; MGCA7; ANKCLB; MEGCANN
NCBI Protein Information	caseinolytic peptidase B protein homolog
UniProt Protein Name	Caseinolytic peptidase B protein homolog
UniProt Gene Name	CLPB
UniProt Synonym Gene Names	HSP78; SKD3
UniProt Entry Name	CLPB_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.