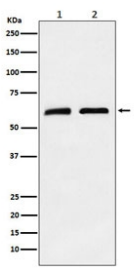
Caseinolytic protease X Antibody 28C38 / Monoclonal Antibody [clone 28C38] (RQ8357)

Catalog No.	Formulation	Size
RQ8357	Antibody in PBS with 0.02% sodium azide, 50% glycerol and 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Mouse
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	28C38
Purity	Affinity chromatography
UniProt	O76031
Applications	Western blot: 1:500-1:2000
Limitations	This Caseinolytic protease X Antibody 28C38 is available for research use only.



Caseinolytic Protease X Antibody 28C38 Western Blot in A673 Cells and Mouse Brain. Western blot testing of human A673 cell lysate (lane 1) and mouse brain tissue lysate (lane 2) was performed with Caseinolytic Protease X Antibody clone 28C38. A strong, predominant band is detected at approximately 60-65 kDa in both samples, slightly below the predicted molecular weight of ~69 kDa. The clean detection across human and mouse samples supports recognition of CLPX by western blot.

Description

Caseinolytic Protease X Antibody 28C38 recognizes CLPX, an ATP-dependent mitochondrial protein encoded by the CLPX gene. CLPX, also known as caseinolytic protease X or ClpX, belongs to the AAA+ family of ATPases and functions as the regulatory chaperone component of the mitochondrial CLPXP protease complex. Through ATP hydrolysis, CLPX recognizes selected protein substrates, unfolds them, and facilitates their processing or degradation.

Within the mitochondrial matrix, CLPX associates with the proteolytic subunit CLPP to form the CLPXP complex. CLPX provides substrate recognition and ATP-dependent unfolding activity, while CLPP forms the proteolytic chamber responsible for degradation. This coordinated activity contributes to mitochondrial protein quality control by regulating the turnover of damaged, misfolded, and selected regulatory proteins and helping maintain mitochondrial proteostasis.

Caseinolytic Protease X Antibody 28C38 can be used to investigate a protein that also participates in mitochondrial processes extending beyond general protein degradation. CLPXP activity contributes to mitochondrial ribosome maturation, protein synthesis, respiratory chain maintenance, and metabolic homeostasis. CLPX additionally regulates enzymes involved in heme biosynthesis, including 5-aminolevulinate synthase, connecting its chaperone activity with mitochondrial metabolism and cellular heme production.

Disruption of CLPX function can alter mitochondrial proteostasis and metabolic regulation. Genetic variants affecting CLPX have been associated with abnormalities in heme biosynthesis, including erythropoietic protoporphyria type 2. CLPX and the CLPXP protease system are also studied in cancer and other conditions involving altered mitochondrial protein quality control, bioenergetics, and cellular stress responses.

A Caseinolytic Protease X Antibody 28C38 can support research into mitochondrial proteostasis, CLPXP activity, ATP-dependent protein quality control, heme biosynthesis, and mitochondrial metabolism. NSJ Bioreagents provides antibodies for research investigating CLPX function and mechanisms that maintain mitochondrial protein homeostasis.

See our CLPX Antibody for additional research into mitochondrial proteostasis, protein quality control, and CLPXP function.

Application Notes

Optimal dilution of the Caseinolytic protease X Antibody 28C38 should be determined by the researcher.

Immunogen

A synthetic peptide derived from human Caseinolytic protease X was used as the immunogen for the Caseinolytic protease X Antibody 28C38.

Storage

Store the Caseinolytic protease X Antibody 28C38 at -20oC.

Alternate Names

CLPX antibody, Caseinolytic Protease X antibody, ClpX antibody, ATP-Dependent Clp Protease ATP-Binding Subunit ClpX-Like antibody, EPP2 antibody

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