

KD-Validated Anti-CLPX Rabbit Monoclonal Antibody
Rabbit monoclonal antibody
Catalog # AGI1031**Specification****KD-Validated Anti-CLPX Rabbit Monoclonal Antibody - Product Information**

Application	WB, FC, ICC
Primary Accession	O76031
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Calculated MW	Predicted, 69 kDa, observed, 60 kDa kDa
Gene Name	CLPX
Aliases	Caseinolytic Mitochondrial Matrix Peptidase Chaperone Subunit X; ATP-Dependent Clp Protease ATP-Binding Subunit ClpX-Like, Mitochondrial; ClpX (Caseinolytic Protease X, E. Coli) Homolog ; ClpX Caseinolytic Protease X Homolog (E. Coli); Energy-Dependent Regulator Of Proteolysis; ClpX Caseinolytic Peptidase X Homolog; ClpX Caseinolytic Protease X Homolog; EPP2
Immunogen	A synthesized peptide derived from human CLPX

KD-Validated Anti-CLPX Rabbit Monoclonal Antibody - Additional Information

Gene ID	10845
Other Names	
ATP-dependent clpX-like chaperone, mitochondrial, 3.6.4.10, ATP-dependent Clp protease ATP-binding subunit clpX-like, mitochondrial, Caseinolytic mitochondrial matrix peptidase chaperone subunit X {ECO:0000312 HGNC:HGNC:2088}, CLPX (http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=2088) HGNC:2088)	

KD-Validated Anti-CLPX Rabbit Monoclonal Antibody - Protein Information**Name** CLPX ([HGNC:2088](#))**Function**

ATP-dependent chaperone that functions as an unfoldase. As part of the ClpXP protease complex, it recognizes specific protein substrates, unfolds them using energy derived from ATP hydrolysis, and then translocates them to the proteolytic subunit (CLPP) of the ClpXP complex for degradation (PubMed: [11923310](http://www.uniprot.org/citations/11923310), PubMed: [22710082](http://www.uniprot.org/citations/22710082), PubMed: [28874591](http://www.uniprot.org/citations/28874591)). Thanks to its chaperone activity, it also functions in the incorporation of the pyridoxal phosphate

cofactor into 5- aminolevulinate synthase, thereby activating 5-aminolevulinate (ALA) synthesis, the first step in heme biosynthesis (PubMed:28874591). This chaperone is also involved in the control of mtDNA nucleoid distribution, by regulating mitochondrial transcription factor A (TFAM) activity (PubMed:22841477).

Cellular Location

Mitochondrion. Mitochondrion matrix, mitochondrion nucleoid

Tissue Location

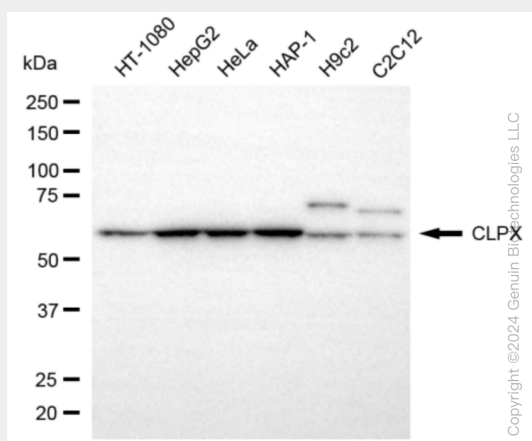
Higher expression in skeletal muscle and heart and to a lesser extent in liver, brain, placenta, lung, kidney and pancreas.

KD-Validated Anti-CLPX Rabbit Monoclonal Antibody - Protocols

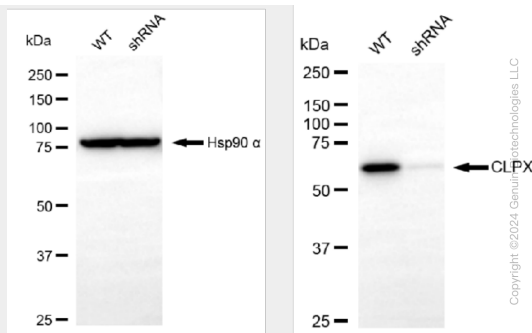
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

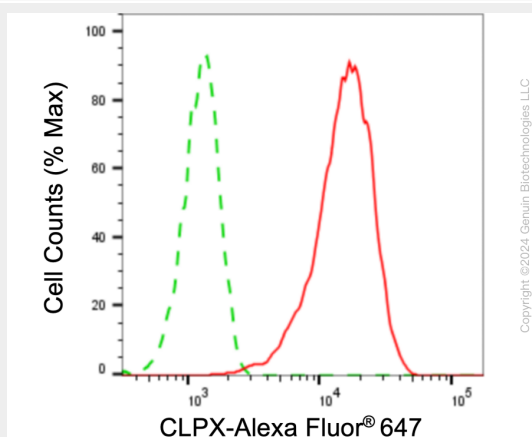
KD-Validated Anti-CLPX Rabbit Monoclonal Antibody - Images



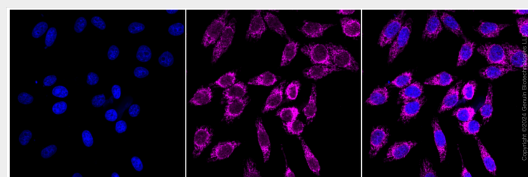
Western blotting analysis using anti-CLPX antibody (Cat#61149). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-CLPX antibody (Cat#61149, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (Cat#201, 1:20,000) respectively. Image was developed using NaQ™ ECL Substrate Kit (Cat#716).



Western blotting analysis using anti-CLPX antibody (Cat#61149). CLPX expression in wild-type (WT) and CLPX shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-CLPX antibody (Cat#61149, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (Cat#201, 1:20,000) respectively. Image was developed using FeQ™ ECL Substrate Kit (Cat#226).



Flow cytometric analysis of CLPX expression in HepG2 cells using anti-CLPX antibody (Cat#61149, 1:2,000). Green, isotype control; red, CLPX.



Immunocytochemical staining of HepG2 cells with CLPX antibody (Cat#61149, 1:1,000). Nuclei were stained blue with DAPI; CLPX was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.