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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 (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, PubMed:22710082, PubMed: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

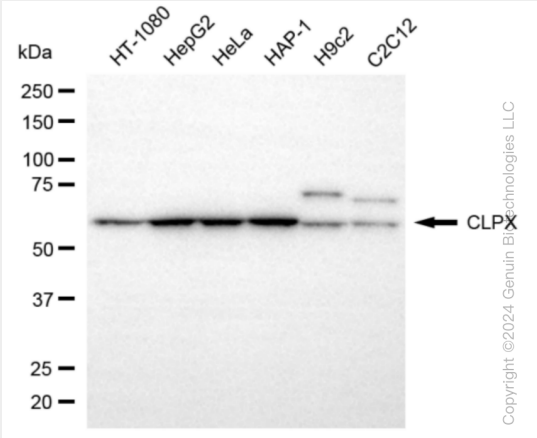
Tissue Location
Higher expression in skeletal muscle and heart and to a lesser extent in liver, brain, placenta, lung, kidney and pancreas.

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 Cytomety
- Cell Culture

KD-Validated Anti-CLPX Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-CLPX antibody (Cat#AGI1031). 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#AGI1031, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.

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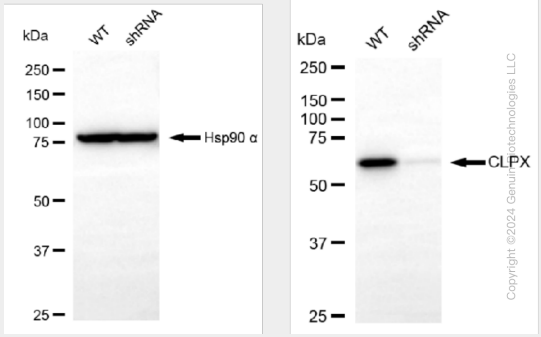
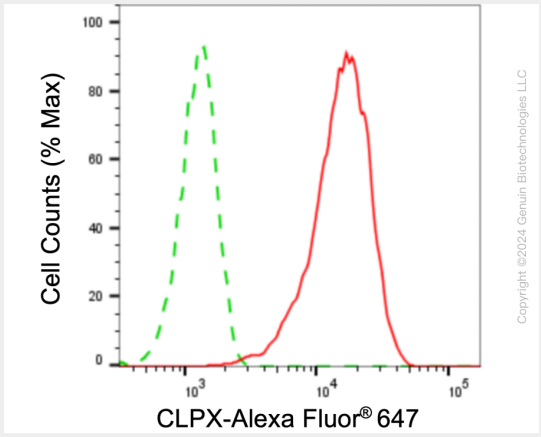
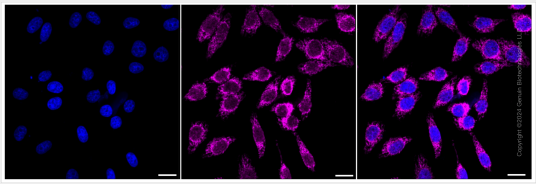


Western blotting analysis using anti-CLPX antibody (Cat#AGI1031). CLPX expression in wild-type (WT) and CLPX shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-CLPX antibody (Cat#AGI1031, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of CLPX expression in HepG2 cells using anti-CLPX antibody (Cat#AGI1031, 1:2,000). Green, isotype control; red, CLPX.



Immunocytochemical staining of HepG2 cells with CLPX antibody (Cat#AGI1031, 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.