

**Anti-Cpn10 Antibody**  
**Catalog # ABO11098****Specification**

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**Anti-Cpn10 Antibody - Product Information**

Application	WB, IHC-P, ICC
Primary Accession	<a href="#">P61604</a>
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for 10 kDa heat shock protein, mitochondrial(HSPE1) detection.  
Tested with WB, IHC-P, ICC in Human;Mouse;Rat.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-Cpn10 Antibody - Additional Information**

**Gene ID** 3336

**Other Names**

10 kDa heat shock protein, mitochondrial, Hsp10, 10 kDa chaperonin, Chaperonin 10, CPN10, Early-pregnancy factor, EPF, HSPE1

**Calculated MW**

10932 MW KDa

**Application Details**

Immunocytochemistry , 0.5-1 µg/ml, Human, -<br>Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By Heat<br>Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse<br>

**Subcellular Localization**

Mitochondrion matrix.

**Protein Name**

10 kDa heat shock protein, mitochondrial(Hsp10)

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Thimerosal, 0.05mg NaN<sub>3</sub>.

**Immunogen**

A synthetic peptide corresponding to a sequence at the C-terminus of human Cpn10(81-102aa VVLDDKDYFLFRDGDILGKYVD), different from the related rat and mouse sequences by one amino acid.

**Purification**

Immunogen affinity purified.

**Cross Reactivity**

No cross reactivity with other proteins

Storage

**At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.**

**Anti-Cpn10 Antibody - Protein Information**

**Name** HSPE1

**Function**

Co-chaperonin implicated in mitochondrial protein import and macromolecular assembly. Together with Hsp60, facilitates the correct folding of imported proteins. May also prevent misfolding and promote the refolding and proper assembly of unfolded polypeptides generated under stress conditions in the mitochondrial matrix (PubMed: [11422376](http://www.uniprot.org/citations/11422376), PubMed: [1346131](http://www.uniprot.org/citations/1346131), PubMed: [7912672](http://www.uniprot.org/citations/7912672)). The functional units of these chaperonins consist of heptameric rings of the large subunit Hsp60, which function as a back-to-back double ring. In a cyclic reaction, Hsp60 ring complexes bind one unfolded substrate protein per ring, followed by the binding of ATP and association with 2 heptameric rings of the co-chaperonin Hsp10. This leads to sequestration of the substrate protein in the inner cavity of Hsp60 where, for a certain period of time, it can fold undisturbed by other cell components. Synchronous hydrolysis of ATP in all Hsp60 subunits results in the dissociation of the chaperonin rings and the release of ADP and the folded substrate protein (Probable).

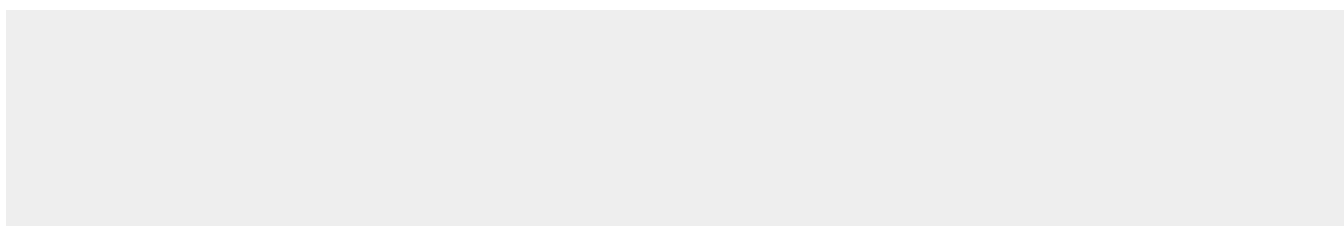
**Cellular Location**

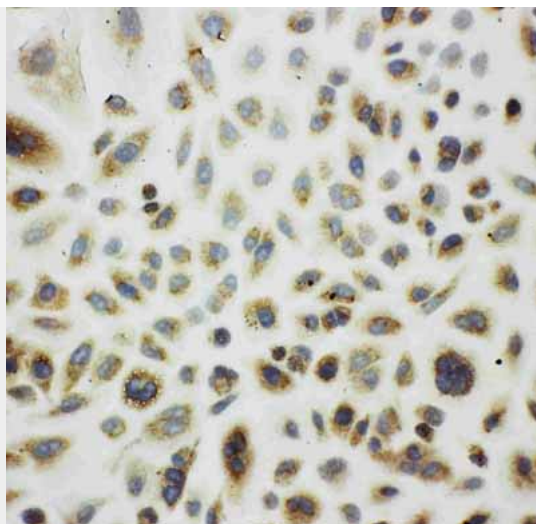
Mitochondrion matrix.

**Anti-Cpn10 Antibody - Protocols**

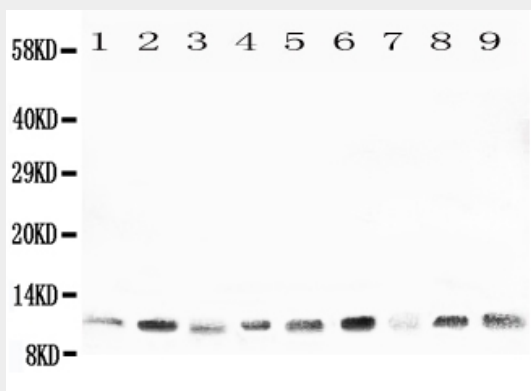
Provided below are standard protocols that you may find useful for product applications.

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

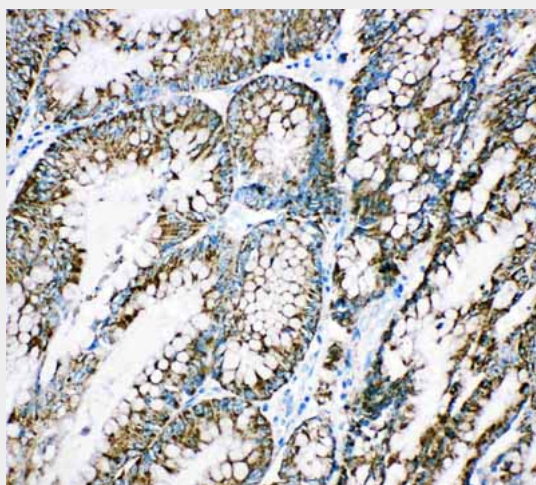
**Anti-Cpn10 Antibody - Images**



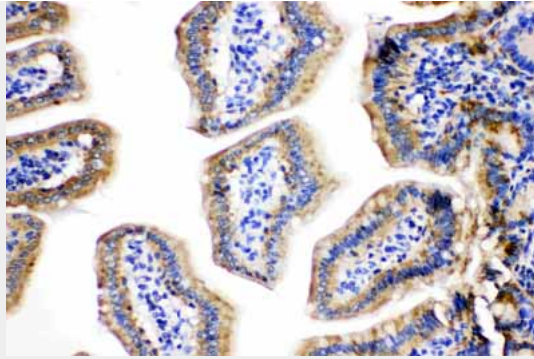
Anti-Cpn10 antibody, ABO11098, ICCICC: A549 Cell



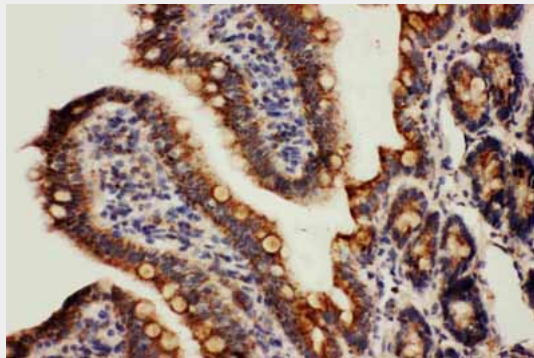
Anti-Cpn10 antibody, ABO11098, Western blottingAll lanes: Anti Cpn10 (ABO11098) at 0.5ug/ml  
Lane 1: Rat Thymus Tissue Lysate at 50ug  
Lane 2: Rat Brain Tissue Lysate at 50ug  
Lane 3: Rat Ovary Tissue Lysate at 50ug  
Lane 4: Rat Testis Tissue Lysate at 50ug  
Lane 5: A431 Whole Cell Lysate at 40ug  
Lane 6: A549 Whole Cell Lysate at 40ug  
Lane 7: MCF-7 Whole Cell Lysate at 40ug  
Lane 8: MM231 Whole Cell Lysate at 40ug  
Lane 9: HELA Whole Cell Lysate at 40ug  
Predicted bind size: 11KD  
Observed bind size: 11KD



Anti-Cpn10 antibody, ABO11098, IHC(P)IHC(P): Human Intestinal Cancer Tissue



Anti-Cpn10 antibody, ABO11098, IHC(P)IHC(P): Mouse Intestine Tissue



Anti-Cpn10 antibody, ABO11098, IHC(P)IHC(P): Rat Intestine Tissue

#### **Anti-Cpn10 Antibody - Background**

HSPE1(heat shock 10kDa protein 1(chaperonin 10)), also called CPN10, GROES, CHAPERONIN 10 HOMOLOG, cpn10 HOMOLOG or HSP10, is a protein that in humans is encoded by the HSPE1 gene. GroES is a heptameric ring of identical 10.4-kD subunits that binds to each end of GroEL to form a symmetric, functional heterodimer. The HSP10 gene consists of 4 exons. The HSPE1 gene is mapped to 2q33.1. The transcriptional activity of the promoter fragment in the HSP60 direction is approximately twice that in the HSP10 direction under normal growth conditions; upon heat shock, promoter activity in either direction increased by a factor of approximately 12. Mutational drifts performed in vitro with 4 different enzymes indicated the GroES overexpression doubled the number of accumulating mutations, and promoted the folding of enzyme variants carrying mutations in the protein core and/or mutations with higher destabilizing effects.