Anti-HSP60 Antibody

1007-1

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P, IF-Cell
Molecular Wt:	Predicted band size: 61 kDa

Description: HSP60, also known as chaperonins (Cpn), is a family of heat shock proteins originally sorted by their 60kDa molecular mass. They prevent misfolding of proteins during stressful situations such as high heat, by assisting protein folding. HSP60 belong to a large class of molecules that assist protein folding, called molecular chaperones. Newly made proteins usually must fold from a linear chain of amino acids into a three-dimensional tertiary structure. The energy to fold proteins is supplied by non-covalent interactions between the amino acid side chains of each protein, and by solvent effects. Most proteins spontaneously fold into their most stable three-dimensional conformation, which is usually also their functional conformation, but occasionally proteins mis-fold. Molecular chaperones catalyze protein refolding by accelerating partial unfolding of misfolded proteins, aided by energy supplied by the hydrolysis of adenosine triphosphate (ATP). Chaperonin proteins may also tag misfolded proteins to be degraded.

Immunogen: Synthetic peptide within C-terminal Human HSP60.

Positive control: Hela cell lysate, Raji cell lysate, HepG2 cell lysate, rat kidney tissue, human kidney tissue, mouse kidney tissue, HepG2, SW480.

Subcellular location: Mitochondrion matrix

Database links: SwissProt: P10809 Human | P63038 Mouse | P63039 Rat

Recommended Dilutions:

WB	1:2,000
IHC-P	1:100
IF-Cell	1:50

Storage Buffer: 1*PBS (pH7.4), 0.2% BSA, 25% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Immunogen affinity purified.

Images

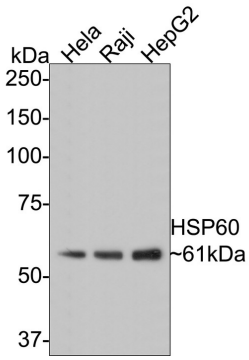

Fig1: Western blot analysis of HSP60 on different lysates with Rabbit anti-HSP60 antibody (1007-1) at 1/2,000 dilution.

Lane 1: Hela cell lysate
Lane 2: Raji cell lysate
Lane 3: HepG2 cell lysate

Lysates/proteins at 10 µg/Lane.

Predicted band size: 61 kDa
Observed band size: 61 kDa

Exposure time: 2 minutes;
8% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (1007-1) at 1/2,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:300,000 dilution was used for 1 hour at room temperature.

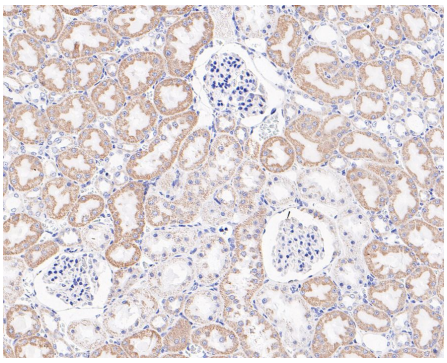

Fig2: Immunohistochemical analysis of paraffin-embedded rat kidney tissue with Rabbit anti-HSP60 antibody (1007-1) at 1/100 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (1007-1) at 1/100 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

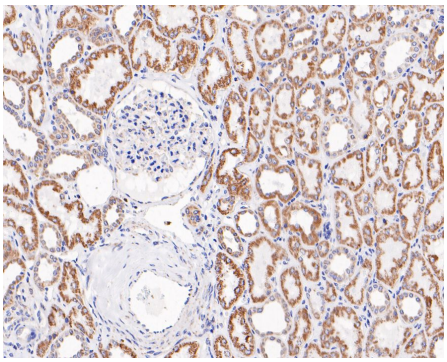

Fig3: Immunohistochemical analysis of paraffin-embedded human kidney tissue with Rabbit anti-HSP60 antibody (1007-1) at 1/100 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (1007-1) at 1/100 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

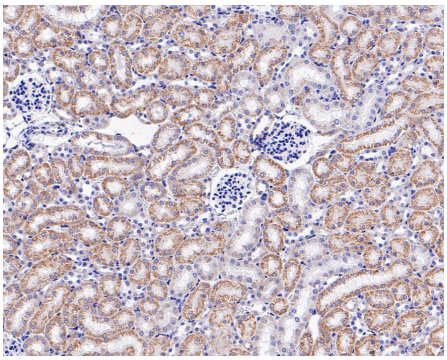

Fig4: Immunohistochemical analysis of paraffin-embedded mouse kidney tissue with Rabbit anti-HSP60 antibody (1007-1) at 1/100 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (1007-1) at 1/100 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

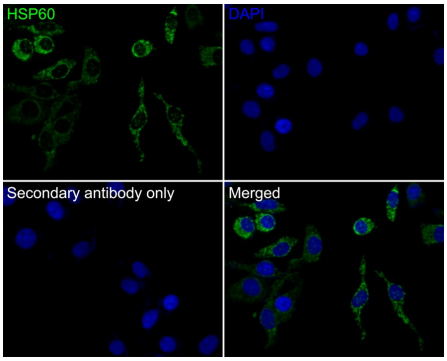

Fig5: Immunocytochemistry analysis of HepG2 cells labeling HSP60 with Rabbit anti-HSP60 antibody (1007-1) at 1/50 dilution.

Cells were fixed in 4% paraformaldehyde for 10 minutes at 37 ℃, permeabilized with 0.05% Triton X-100 in PBS for 20 minutes, and then blocked with 2% negative goat serum for 30 minutes at room temperature. Cells were then incubated with Rabbit anti-HSP60 antibody (1007-1) at 1/50 dilution in 2% negative goat serum overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

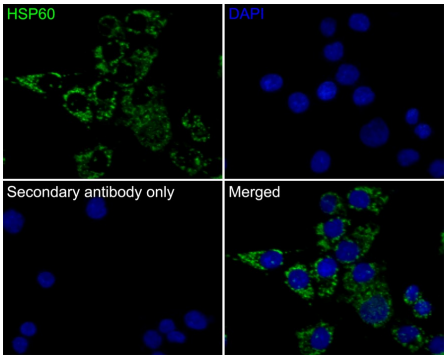

Fig6: Immunocytochemistry analysis of SW480 cells labeling HSP60 with Rabbit anti-HSP60 antibody (1007-1) at 1/50 dilution.

Cells were fixed in 4% paraformaldehyde for 10 minutes at 37 ℃, permeabilized with 0.05% Triton X-100 in PBS for 20 minutes, and then blocked with 2% negative goat serum for 30 minutes at room temperature. Cells were then incubated with Rabbit anti-HSP60 antibody (1007-1) at 1/50 dilution in 2% negative goat serum overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Background References

1. Singh B., Patel H.V., Ridley R.G., Freeman K.B., Gupta R.S.; "Mitochondrial import of the human chaperonin (HSP60) protein."; Biochem. Biophys. Res. Commun. 169:391-396(1990).
2. Tanaka Y., Kanai F., Kawakami T., Tateishi K., Ijichi H., Kawabe T., Arakawa Y., Kawakami T., Nishimura T., Shirakata Y., Koike K., Omata M.; "Interaction of the hepatitis B virus X protein (HBx) with heat shock protein 60 enhances HBx-mediated apoptosis."; Biochem. Biophys. Res. Commun. 318:461-469(2004)