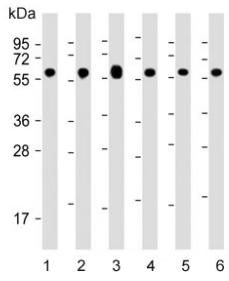
60 kDa Heat Shock Protein Antibody / HSP60 60 kDa Antibody (F54512)

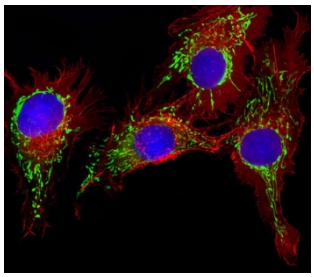
Catalog No.	Formulation	Size
F54512-0.2ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.2 ml
F54512-0.05ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.05 ml

Bulk quote request

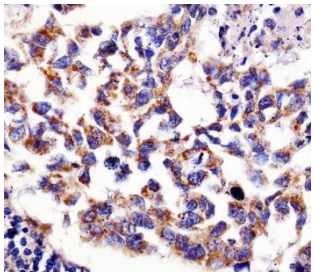
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity purified
UniProt	P10809
Localization	Cytoplasmic
Applications	Western blot: 1:500-1:2000 Flow cytometry: 1:25 (1x10e6 cells) Immunohistochemistry (FFPE): 1:25 Immunofluorescence: 1:25
Limitations	This 60 kDa Heat Shock Protein Antibody / HSP60 60 kDa Antibody is available for research use only.



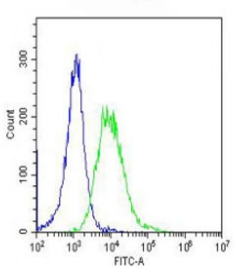
60 kDa Heat Shock Protein Antibody / HSP60 60 kDa Antibody Multi-Species Cell Expression WB. Western blot testing of human Jurkat T-cell leukemia (lane 1), HeLa cervical cancer (lane 2), HepG2 hepatocellular carcinoma (lane 3), MCF7 breast cancer (lane 4), mouse NIH 3T3 fibroblast (lane 5), and rat PC-12 pheochromocytoma (lane 6) cell lysates with 60 kDa Heat Shock Protein Antibody shows a strong predominant band at approximately 60 kDa in all six samples. The observed migration agrees with the predicted molecular weight of HSP60 and demonstrates recognition across human, mouse, and rat samples.



60 kDa Heat Shock Protein Antibody in HepG2 Hepatocellular Carcinoma Cells IF. Immunofluorescence staining of fixed and permeabilized human HepG2 hepatocellular carcinoma cells with 60 kDa Heat Shock Protein Antibody shows a prominent punctate to reticular cytoplasmic signal (green), consistent with the predominantly mitochondrial distribution of HSP60. Actin staining (red) highlights the cytoskeleton, while DAPI (blue) identifies the nuclei and emphasizes the extranuclear localization of the HSP60 signal.



60 kDa Heat Shock Protein Antibody in Human Lung Adenocarcinoma IHC. Immunohistochemistry staining of FFPE human lung adenocarcinoma tissue with 60 kDa Heat Shock Protein Antibody shows prominent granular cytoplasmic staining within tumor cells, consistent with the predominantly mitochondrial localization of HSP60. Heat-induced epitope retrieval was performed by steaming tissue sections in pH 6 citrate buffer for 20 min followed by cooling prior to staining.



60 kDa Heat Shock Protein Antibody in HeLa Cervical Cancer Cells FACS. Flow cytometry testing of fixed and permeabilized human HeLa cervical cancer cells with 60 kDa Heat Shock Protein Antibody shows a clear rightward shift in fluorescence of the antibody-stained population (green) relative to the isotype control (blue), demonstrating detection of intracellular HSP60 under the tested conditions.

Description

60 kDa Heat Shock Protein Antibody / HSP60 60 kDa Antibody recognizes HSP60, a highly conserved molecular chaperone encoded by the HSPD1 gene. HSP60 is a member of the group I chaperonin family and is primarily localized within the mitochondrial matrix, where it participates in protein folding and quality control. Together with its co-chaperonin HSP10, HSP60 forms an ATP-dependent chaperone system that assists proteins in achieving and maintaining their functional conformations.

HSP60 is synthesized in the cytosol as a precursor protein containing an N-terminal mitochondrial targeting sequence. This sequence directs the protein into mitochondria and is subsequently removed to generate mature HSP60. Within the mitochondrial matrix, HSP60 subunits assemble into oligomeric complexes that provide a protected environment for protein folding. This process is particularly important because most mitochondrial proteins are encoded by nuclear genes, synthesized in the cytosol, and imported into mitochondria before becoming functional.

The 60 kDa heat shock protein contributes to mitochondrial proteostasis by facilitating the folding of newly imported proteins and helping prevent the accumulation of improperly folded polypeptides. Under cellular stress, the HSP60 chaperone system can also participate in the refolding and recovery of damaged proteins, connecting its constitutive mitochondrial function with broader mechanisms of cellular stress adaptation.

Altered HSP60 expression, localization, and activity have been investigated in oxidative stress, mitochondrial dysfunction, inflammation, immune responses, neurodegeneration, cardiovascular biology, and cancer. These associations have made HSPD1 an important target for studies examining relationships among mitochondrial function, protein homeostasis, stress signaling, and disease-associated cellular changes.

HSP60 is evolutionarily related to bacterial GroEL and other group I chaperonins. The structural and functional conservation of this protein family has contributed to research examining chaperonin biology, immune recognition, and host-pathogen interactions. Despite this conservation, antibody recognition of mammalian and microbial chaperonins can

differ depending on the epitopes detected.

NSJ Bioreagents offers this antigen affinity-purified rabbit polyclonal reagent for investigating HSP60 biology. A 60 kDa Heat Shock Protein Antibody can support research into mitochondrial protein folding, proteostasis, cellular stress, and the biological functions of HSP60.

For a recombinant, Protein Microarray Validated option with broad mammalian species validation, see our HSP60 Antibody / Heat Shock Protein 60 Antibody page.

Application Notes

The stated application concentrations are suggested starting points. Titration of the 60 kDa Heat Shock Protein Antibody / HSP60 60 kDa Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

Recombinant human protein was used as the immunogen for the 60 kDa Heat Shock Protein Antibody.

Storage

Aliquot the 60 kDa Heat Shock Protein Antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

60 kDa Heat Shock Protein antibody, HSP60 60 kDa antibody, HSP60 antibody, HSPD1 antibody, Heat Shock Protein 60 antibody, Chaperonin 60 antibody, CPN60 antibody, HSP65 antibody

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