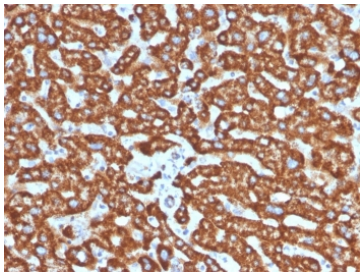
HSP60 Antibody LK2 / HSP60 Chaperonin Antibody [clone LK2] (V2137)

Catalog No.	Formulation	Size
V2137-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2137-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2137SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

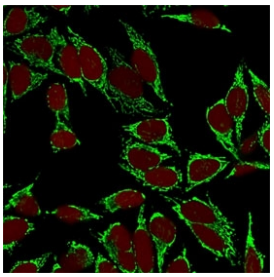
Citations (9)

Bulk quote request

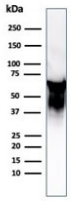
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	LK2
Purity	Protein G affinity chromatography
Gene ID	3329
Localization	Mitochondria in cytoplasm
Applications	Immunofluorescence: 1-2ug/ml Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This HSP60 Antibody LK2 / HSP60 Chaperonin Antibody is available for research use only.



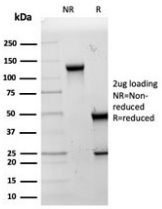
HSP60 Antibody LK2 / HSP60 Chaperonin Antibody in Human Liver IHC. Immunohistochemistry staining of FFPE human liver tissue with HSP60 Antibody clone LK2 shows strong granular cytoplasmic staining throughout hepatocytes, consistent with the mitochondrial localization of HSP60. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 20 min followed by cooling before testing.



HSP60 Antibody LK2 / HSP60 Chaperonin Antibody in HeLa Cervical Cancer Cells IF. Immunofluorescence staining of methanol-fixed human HeLa cervical cancer cells with HSP60 Antibody clone LK2 shows prominent cytoplasmic staining with a granular distribution consistent with mitochondrial HSP60 localization. RedDot nuclear staining (red) identifies the nuclei and highlights the predominantly extranuclear HSP60 signal (green).



HSP60 Antibody LK2 in Hep-2 Human Carcinoma Cells WB. Western blot testing of human Hep-2 carcinoma cell lysate with HSP60 Antibody clone LK2 shows a strong predominant band at approximately 60 kDa, consistent with the expected molecular weight of HSPD1/HSP60.



Purified HSP60 Antibody LK2 SDS-PAGE. SDS-PAGE analysis of 2 ug purified, BSA-free HSP60 Antibody clone LK2 under non-reduced (NR) and reduced (R) conditions demonstrates the integrity and purity of the mouse monoclonal antibody preparation. The non-reduced antibody migrates predominantly above 100 kDa, while reduction produces heavy- and light-chain bands at approximately 50 kDa and 25 kDa, respectively.

Description

HSP60 Antibody LK2 / HSP60 Chaperonin Antibody recognizes heat shock protein 60, a highly conserved molecular chaperone involved in ATP-dependent protein folding and proteostasis. Mammalian HSP60 is encoded by the HSPD1 gene and is primarily localized to the mitochondrial matrix, where it works with the co-chaperonin HSP10 to assist the folding and assembly of proteins imported into mitochondria.

HSP60 belongs to the group I chaperonin family, whose members are conserved across evolution. These proteins form oligomeric complexes that provide a protected environment in which unfolded or partially folded polypeptides can attain functional conformations. ATP binding and hydrolysis drive conformational changes within the chaperonin complex and coordinate successive stages of the protein-folding cycle.

Mammalian HSP60 shares substantial sequence and structural conservation with bacterial chaperonins, particularly GroEL. This evolutionary relationship is important in studies of molecular chaperones, microbial biology, host-pathogen interactions, and immune recognition. Antibodies differ in their ability to recognize HSP60 proteins across species, making cross-reactivity an important consideration when selecting reagents for comparative chaperonin research.

Clone LK2 recognizes both mammalian and bacterial HSP60, distinguishing it from antibodies that selectively recognize mammalian HSP60. This broad chaperonin recognition can be useful for studies comparing related HSP60 proteins or investigating conserved epitopes shared between mammalian HSP60 and bacterial counterparts. The LK2 epitope has been mapped within amino acids 383-419 of mammalian HSP60.

Beyond its role in mitochondrial protein folding, mammalian HSP60 has been investigated in cellular stress, mitochondrial dysfunction, inflammation, immunity, neurodegeneration, and cancer. Its bacterial homologs likewise play essential roles in protein homeostasis and survival under stressful environmental conditions. An HSP60 Chaperonin Antibody capable of recognizing conserved HSP60 proteins can therefore support research spanning mitochondrial biology and comparative chaperonin biology.

NSJ Bioreagents offers clone LK2 as a published mouse monoclonal HSP60 Antibody for researchers investigating HSP60 and related chaperonins. Its recognition of both mammalian and bacterial HSP60 provides a useful distinction for studies involving evolutionarily conserved heat shock proteins.

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 concentration stated for each application is a general starting point. Variations in protocols, secondaries and substrates may require the HSP60 Antibody LK2 / HSP60 Chaperonin Antibody to be titered up or down for optimal performance.

Immunogen

Recombinant human HSP60 protein was used as the immunogen for this HSP60 Antibody LK2.

Storage

Store the HSP60 Antibody LK2 at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

60kDa chaperonin, 60kDa heat shock protein mitochondrial, Chaperonin, 60-KD (CPN60), GROEL, HLD4, HSP65, HSPD1, HuCHA60, Mitochondrial matrix protein P1, P60 lymphocyte protein, Short heat shock protein 60 Hsp60s1, Spastic paraplegia 13 (SPG13), HSP60 antibody

References (1)

Copyright © NSJ Bioreagents. All rights reserved.