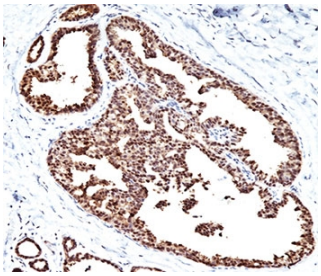
HSP60 Antibody LK1 / Mitochondrial HSP60 Antibody [clone LK1] (V2136)

Catalog No.	Formulation	Size
V2136-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2136-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2136SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2136IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

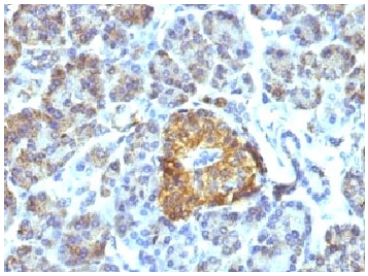
Citations (8)

Bulk quote request

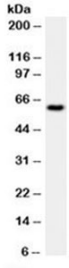
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	LK1
Purity	Protein G affinity chromatography
Gene ID	3329
Localization	Mitochondria in cytoplasm
Applications	Flow cytometry: 1-2ug/10^6 cells Immunofluorescence: 1-2ug/ml Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This HSP60 Antibody LK1 / Mitochondrial HSP60 Antibody is available for research use only.



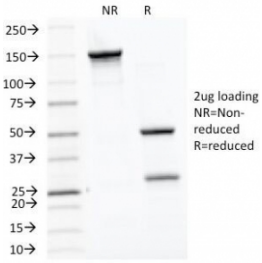
HSP60 Antibody LK1 / Mitochondrial HSP60 Antibody in Human Breast Carcinoma IHC. Immunohistochemistry staining of FFPE human breast carcinoma tissue with HSP60 Antibody clone LK1 demonstrates HSP60 expression within the tumor tissue. Clone LK1 recognizes mammalian HSP60 and does not recognize bacterial HSP60, providing selective detection of the mammalian mitochondrial chaperonin.



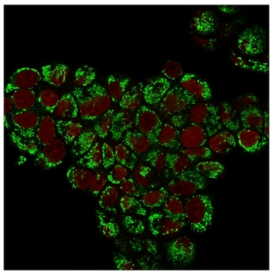
HSP60 Antibody LK1 / Mitochondrial HSP60 Antibody in Human Pancreas IHC. Immunohistochemistry staining of FFPE human pancreas tissue with HSP60 Antibody clone LK1 demonstrates HSP60 expression within the pancreatic tissue. HSP60 is a mitochondrial chaperonin encoded by HSPD1 and is involved in mitochondrial protein folding and proteostasis.



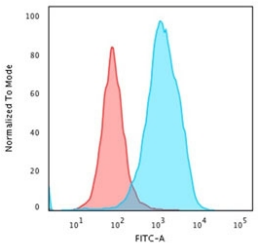
HSP60 Antibody LK1 in HeLa Cervical Cancer Cells WB. Western blot testing of human HeLa cervical cancer cell lysate with HSP60 Antibody clone LK1 detects a band at approximately 60 kDa, consistent with the expected molecular weight of HSPD1/HSP60.



Purified HSP60 Antibody LK1 SDS-PAGE. SDS-PAGE analysis of purified, BSA-free HSP60 Antibody clone LK1 demonstrates the integrity and purity of the mouse monoclonal antibody preparation.



HSP60 Antibody LK1 in MCF7 Breast Cancer Cells IF. Immunofluorescence staining of PFA-fixed human MCF7 breast cancer cells with HSP60 Antibody clone LK1 detects HSP60 protein (green), while RedDot nuclear staining identifies nuclei (red). The staining demonstrates detection of the mammalian mitochondrial HSP60 protein in MCF7 cells.



HSP60 Antibody LK1 in HeLa Cervical Cancer Cells FACS. Flow cytometry analysis of PFA-fixed human HeLa cervical cancer cells with HSP60 Antibody clone LK1 demonstrates a positive fluorescence shift (blue) relative to the isotype control (red), supporting detection of intracellular HSP60.

Description

HSP60 Antibody LK1 is a mouse monoclonal antibody directed against heat shock protein 60, a highly conserved molecular chaperone encoded by the HSPD1 gene. HSP60 is primarily located within the mitochondrial matrix, where it participates in the folding and assembly of proteins imported into mitochondria. Together with the co-chaperonin HSP10, HSP60 forms an ATP-dependent protein-folding system that contributes to mitochondrial proteostasis and normal organelle function.

HSP60 is synthesized in the cytosol as a precursor containing an N-terminal mitochondrial targeting sequence. Following

import into the mitochondrial matrix, this sequence is removed to generate the mature protein. HSP60 subunits assemble into oligomeric chaperonin complexes that provide an enclosed environment where unfolded or partially folded proteins can acquire their functional conformations without inappropriate interactions with other cellular components.

In addition to its fundamental role in mitochondrial protein folding, HSP60 has been investigated in cellular stress, oxidative stress, mitochondrial dysfunction, inflammation, immunity, neurodegeneration, and cancer. Alterations in HSPD1 abundance or localization may accompany changes in mitochondrial homeostasis, making HSP60 an important target for studies of mitochondrial biology and stress-associated cellular processes.

Clone LK1 recognizes an epitope located within amino acids 383-447 of human HSP60. An important characteristic of this established clone is its selectivity for mammalian HSP60 without recognition of the bacterial counterpart. This distinction is particularly relevant because mammalian HSP60 shares substantial evolutionary conservation with bacterial GroEL and related chaperonins. Clone LK1 can therefore be useful when mammalian HSP60 recognition needs to be distinguished from bacterial chaperonin reactivity.

HSP60 Antibody clone LK1 has been cited in published research and has been used to investigate HSP60 in studies spanning mitochondrial biology and disease-associated processes. NSJ Bioreagents offers this monoclonal reagent for researchers studying HSPD1, cellular stress, mitochondrial protein homeostasis, and mammalian HSP60 biology.

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 LK1 / Mitochondrial HSP60 Antibody to be titered up or down for optimal performance.

1. Staining of formalin-fixed tissues is enhanced by boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 minutes.
2. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Recombinant human HSP60 was used as the immunogen for this HSP60 Antibody LK1.

Storage

Store the HSP60 Antibody LK1 at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

HSPD1 antibody, HSP60 antibody, Heat shock protein 60 antibody, 60 kDa heat shock protein mitochondrial antibody, Chaperonin 60 antibody, CPN60 antibody, HSP65 antibody

References (1)

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