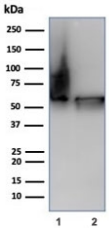
GROEL Antibody / GroEL Chaperonin Antibody [clone HSPD1/6498R] (V9314)

Catalog No.	Formulation	Size
V9314-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9314-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V9314SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

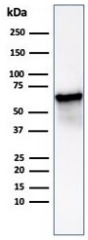
Recombinant RABBIT MONOCLONAL

Bulk quote request

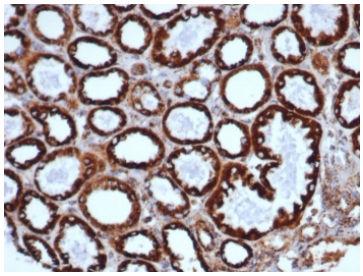
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	HSPD1/6498R
Purity	Protein A/G affinity
UniProt	P10809
Localization	Cytoplasm
Applications	Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This GROEL Antibody / GroEL Chaperonin Antibody is available for research use only.



GROEL Antibody / GroEL Chaperonin Antibody in Hep-2 and HeLa Human Cancer Cells WB. Western blot testing of human Hep-2 carcinoma (lane 1) and HeLa cervical cancer (lane 2) cell lysates with GROEL Antibody clone HSPD1/6498R shows a strong predominant band at approximately 60 kDa in both samples. The observed migration is consistent with the predicted molecular weight of mammalian HSP60. Clone HSPD1/6498R recognizes mammalian HSP60 but not bacterial HSP60/GroEL, providing differentiation between the related mammalian and bacterial chaperonins.



GROEL Antibody / GroEL Chaperonin Antibody in Hep-2 Human Carcinoma Cells WB. Western blot testing of human Hep-2 carcinoma cell lysate with GROEL Antibody clone HSPD1/6498R shows a strong, discrete band at approximately 60 kDa, consistent with the predicted molecular weight of mammalian HSP60. The clean single-band profile demonstrates specific detection of the mammalian chaperonin under the tested conditions. HSPD1/6498R does not recognize bacterial HSP60/GroEL, an important distinction for studies comparing mammalian HSP60 with its bacterial homolog.



GROEL Antibody / GroEL Chaperonin Antibody in Human Liver IHC. Immunohistochemistry staining of FFPE human liver tissue with GROEL Antibody clone HSPD1/6498R shows prominent granular cytoplasmic staining of hepatocytes, consistent with the predominantly mitochondrial distribution of mammalian 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.

Description

GROEL Antibody / GroEL Chaperonin Antibody terminology is commonly associated with the highly conserved group I chaperonin family, which includes bacterial GroEL and its mammalian mitochondrial homolog HSP60. In humans, HSP60 is encoded by the HSPD1 gene and functions primarily within the mitochondrial matrix, where it participates in the folding and assembly of proteins required for normal mitochondrial activity. HSP60 works with the co-chaperonin HSP10 in an ATP-dependent protein-folding system that contributes to mitochondrial proteostasis.

GroEL is the extensively studied bacterial representative of the group I chaperonin family. Mammalian HSP60 and bacterial GroEL share substantial structural and functional conservation, with both forming oligomeric complexes that provide a protected environment for protein folding. Their evolutionary relationship has made GroEL and HSP60 important comparative models for investigating chaperonin structure, protein quality control, stress responses, and the mechanisms governing protein folding.

Despite their homology, distinguishing mammalian HSP60 from bacterial GroEL can be important experimentally. Conserved regions can produce antibody cross-reactivity between mammalian and microbial chaperonins, whereas antibodies recognizing more selective epitopes may discriminate between the homologs. This distinction is particularly relevant to research involving host-pathogen interactions, immune recognition, microbial antigens, or comparisons between mammalian and bacterial stress-response systems.

HSP60 has also been investigated in oxidative stress, mitochondrial dysfunction, inflammation, immunity, neurodegeneration, and cancer. Because bacterial GroEL and mammalian HSP60 can both participate in immune recognition, understanding their antigenic similarities and differences has additional relevance to studies of inflammatory and immune responses.

Clone HSPD1/6498R recognizes mammalian HSP60 but does not recognize bacterial HSP60/GroEL, distinguishing it from clone LK2, which recognizes both mammalian and bacterial forms. The HSPD1/6498R epitope is localized within amino acids 383-447 of human HSP60. This differential recognition makes the clone particularly relevant when researchers need to distinguish mammalian HSP60 from its bacterial GroEL homolog.

NSJ Bioreagents offers clone HSPD1/6498R as a recombinant monoclonal reagent for studying mammalian chaperonin biology. A GROEL Antibody search may encompass reagents recognizing conserved GroEL-related chaperonins, while this clone provides selective recognition of the mammalian HSP60 homolog.

For a recombinant, Protein Microarray Validated option with broad mammalian species validation, see our HSP60

Antibody / Heat Shock Protein 60 Antibody page.

Application Notes

Optimal dilution of the GROEL Antibody / GroEL Chaperonin Antibody should be determined by the researcher.

Immunogen

Recombinant human full-length HSP60 protein was used as the immunogen for the GROEL Antibody. Its epitope is localized between amino acids 383-447 of human hsp60.

Storage

Aliquot the GROEL Antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

GROEL antibody, GroEL chaperonin antibody, HSP60 antibody, HSPD1 antibody, heat shock protein 60 antibody, chaperonin 60 antibody, CPN60 antibody, HSP65 antibody

Copyright © NSJ Bioreagents. All rights reserved.