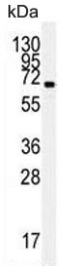
HSPA5 Antibody / Heat Shock Protein Family A Member 5 Antibody (F54266)

Catalog No.	Formulation	Size
F54266-0.2ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.2 ml
F54266-0.05ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.05 ml

Bulk quote request

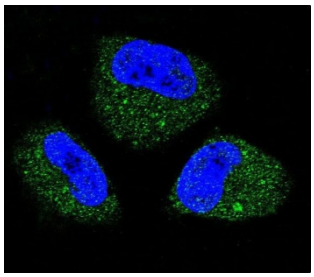
Availability	1-3 business days
Species Reactivity	Human, Mouse
Format	Purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	SAS precipitation
UniProt	P11021
Localization	Cytoplasmic
Applications	Western blot: 1:500-1:2000 Immunohistochemistry (FFPE): 1:25 Immunofluorescence: 1:25 Flow cytometry: 1:25 (1x10e6 cells)
Limitations	This HSPA5 Antibody / Heat Shock Protein Family A Member 5 Antibody is available for research use only.



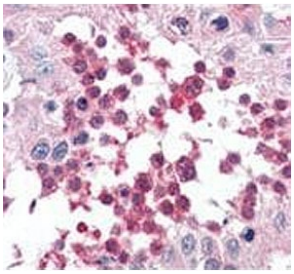
HSPA5 Antibody Human Leukemia Cell WB. Western blot analysis was performed using human HL-60 promyelocytic leukemia cell lysate. The HSPA5 antibody detected a distinct band within the expected 70-78 kDa migration range. The calculated molecular weight of HSPA5 is approximately 73 kDa, although variation within this range is routinely observed for the endogenous protein. The clean band supports specific detection of HSPA5 in a human hematopoietic cancer cell model. This HSPA5 Antibody, also described as a Heat Shock Protein Family A Member 5 Antibody, supports studies of protein folding, endoplasmic reticulum stress and unfolded protein response signaling.



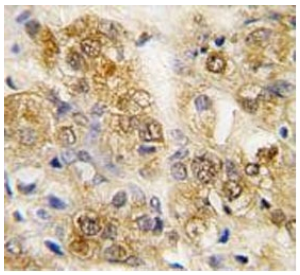
HSPA5 Antibody Mouse Liver WB. Western blot analysis was performed using mouse liver tissue lysate. The HSPA5 antibody detected a distinct band within the expected 70-78 kDa migration range. The calculated molecular weight of HSPA5 is approximately 73 kDa, although endogenous HSPA5 is routinely observed across this slightly broader range. The result supports detection of mouse HSPA5 in metabolically and secretory active liver tissue. This HSPA5 Antibody, also described as a Heat Shock Protein Family A Member 5 Antibody, supports research into hepatic protein folding, endoplasmic reticulum homeostasis and unfolded protein response signaling.



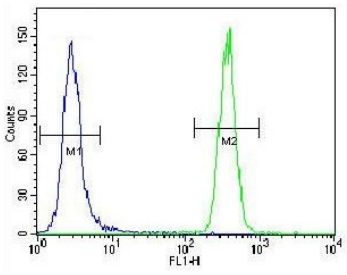
HSPA5 Antibody Human Lung Cancer Cell IF. HSPA5 was detected in fixed and permeabilized human NCI-H460 lung cancer cells by immunofluorescence. HSPA5 antibody staining appears green, while nuclei were counterstained with DAPI and appear blue. The target displays a granular and reticular cytoplasmic distribution with prominent perinuclear signal, consistent with localization of HSPA5 within the endoplasmic reticulum. Nuclear staining is minimal. This HSPA5 Antibody, also described as a Heat Shock Protein Family A Member 5 Antibody, supports cellular localization studies involving protein folding, endoplasmic reticulum homeostasis and stress-response signaling in lung cancer cells.



HSPA5 Antibody Human Testis IHC. HSPA5 expression was examined in a formalin-fixed, paraffin-embedded section of human testis tissue. Heat-induced epitope retrieval was performed by steaming the section in citrate buffer, pH 6.0, for 20 minutes followed by cooling before staining. Red chromogenic signal is concentrated in a subset of cells within the seminiferous tubule, demonstrating variable HSPA5 expression among testicular cell populations. This HSPA5 Antibody, also described as a Heat Shock Protein Family A Member 5 Antibody, supports studies of endoplasmic reticulum protein folding and cellular stress responses in human reproductive tissue.



HSPA5 Antibody Human Prostate Carcinoma IHC. HSPA5 was detected in a formalin-fixed, paraffin-embedded section of human prostate carcinoma tissue. Heat-induced epitope retrieval was performed by steaming the section in citrate buffer, pH 6.0, for 20 minutes followed by cooling before staining. Brown chromogenic signal demonstrates strong granular cytoplasmic HSPA5 expression in malignant prostate epithelial cells, with variable intensity across the examined field. This HSPA5 Antibody, also described as a Heat Shock Protein Family A Member 5 Antibody, supports studies of endoplasmic reticulum protein-folding demand, cellular stress adaptation and unfolded protein response activity in prostate cancer.



HSPA5 Antibody Human Cervical Cancer Cell FACS. Intracellular flow cytometry analysis was performed using fixed and permeabilized human HeLa cervical cancer cells. The blue trace represents the isotype control, while the green trace represents cells stained with HSPA5 antibody. The pronounced rightward shift of the HSPA5-stained population relative to the isotype control demonstrates strong intracellular HSPA5 expression in HeLa cells. This HSPA5 Antibody, also described as a Heat Shock Protein Family A Member 5 Antibody, supports quantitative analysis of endoplasmic reticulum chaperone expression and unfolded protein response activity in human cancer cells.

Description

HSPA5 Antibody recognizes heat shock protein family A member 5, an endoplasmic reticulum molecular chaperone more commonly known as GRP78 or BiP. HSPA5 belongs to the HSP70 family of ATP-dependent protein-folding factors. The protein contains an amino-terminal nucleotide-binding domain, a substrate-binding domain and a carboxy-terminal KDEL retention sequence that supports localization within the endoplasmic reticulum. Cycles of ATP binding and hydrolysis

regulate the interaction of HSPA5 with newly synthesized, incompletely assembled and misfolded proteins entering the secretory pathway.

Heat shock protein family A member 5 assists nascent proteins in achieving stable conformations and helps prevent the formation of inappropriate protein aggregates. HSPA5 can retain incompletely folded proteins within the endoplasmic reticulum and participate in directing terminally misfolded substrates toward endoplasmic reticulum-associated degradation. It is particularly important in professional secretory cells, including plasma cells, pancreatic cells and other cell types that produce large quantities of proteins for export. An HSPA5 Antibody can help researchers assess chaperone abundance and protein quality-control capacity in these metabolically active systems.

HSPA5 is also a major regulator of the unfolded protein response. In cells with low levels of endoplasmic reticulum stress, it associates with the luminal regions of PERK, IRE1 and ATF6. Accumulation of unfolded proteins draws HSPA5 away from these sensors, enabling activation of signaling programs that reduce protein-folding demand, increase chaperone expression and enhance removal of damaged proteins. These responses initially promote adaptation and recovery. If endoplasmic reticulum stress remains unresolved, prolonged signaling can instead contribute to inflammation, growth arrest or apoptosis.

Changes in HSPA5 expression have been examined in cancer, neurodegeneration, metabolic disorders, infection and inflammatory disease models. Increased abundance often reflects elevated secretory demand, nutrient deprivation, hypoxia or other conditions that disturb endoplasmic reticulum homeostasis. Researchers may use HSPA5 Antibody products in western blot, immunohistochemistry, immunofluorescence, flow cytometry or other validated applications to examine protein expression and localization. Analysis alongside CHOP, ATF4, XBP1, PERK or related markers can provide broader information about unfolded protein response activity. NSJ Bioreagents supplies HSPA5 Antibody options for research into HSP70-family chaperone function, protein quality control, cellular stress adaptation and endoplasmic reticulum signaling.

For additional antibodies targeting HSPA5, including products validated across multiple species and applications, visit our GRP78 Antibody page for endoplasmic reticulum stress and protein-folding research.

Application Notes

The stated application concentrations are suggested starting points. Titration of the HSPA5 Antibody / Heat Shock Protein Family A Member 5 Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

Full length recombinant human protein was used as the immunogen for the HSPA5 Antibody.

Storage

Aliquot the HSPA5 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

GRP78 Antibody, BiP Antibody, Heat Shock Protein Family A Member 5 Antibody, Heat Shock 70 kDa Protein 5 Antibody, Glucose-Regulated Protein 78 Antibody, Endoplasmic Reticulum Chaperone BiP Antibody, Immunoglobulin Heavy Chain Binding Protein Antibody

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