

HSP70 Monoclonal Antibody (2A4)

Product Details	
Size	100 µL
Species Reactivity	Amphibian, Avian, Fruit fly, Fish, Human, Mouse, Rat, Yeast
Published Species	Rat, Non-human primate, Fish, Human, Mouse
Host/Isotype	Mouse / IgM
Class	Monoclonal
Type	Antibody
Clone	2A4
Conjugate	Unconjugated
Immunogen	Human recombinant HSP70 over expressed in E. coli.
Form	Liquid
Concentration	1.0 mg/mL
Purification	Affinity chromatography - MBP
Storage buffer	PBS
Contains	0.05% sodium azide
Storage conditions	-20° C, Avoid Freeze/Thaw Cycles
RRID	AB_325456

Applications	Tested Dilution	Publications
Western Blot (WB)	1 µg/mL	8 Publications
Immunohistochemistry (Paraffin) (IHC (P))	1:200	-
Immunocytochemistry (ICC/IF)	5 µg/mL	-
Immunoprecipitation (IP)	2 µg	-
Neutralization (Neu)	-	1 Publication
Miscellaneous PubMed (Misc)	-	1 Publication

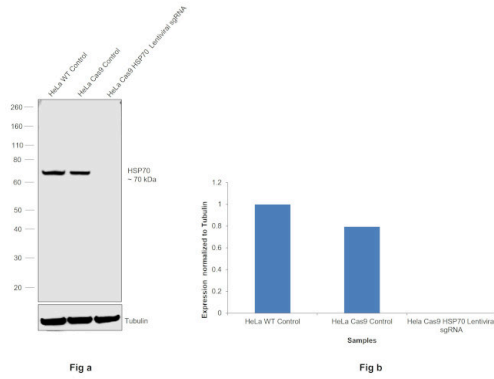
Product Specific Information

MA3-008 detects several members of the heat shock protein 70 kDa (HSP70) gene family including HSP70, HSC70 and, following heat shock, HSP72 from yeast, Drosophila, fish, mouse, avian, amphibian and human samples.

MA3-008 has been successfully used in Western blot, immunohistochemistry (paraffin), immunoprecipitation, and immunofluorescence procedures. By Western blot, this antibody detects proteins from ~70 kDa to ~72 kDa representing different members of the HSP70 family. 2-dimensional gel electrophoresis is required to resolve the heat induced form of these proteins from their constitutively expressed counterparts. Immunofluorescence staining of HSP70 in heat shocked HeLa cells with MA3-008 results in cytoplasmic staining.

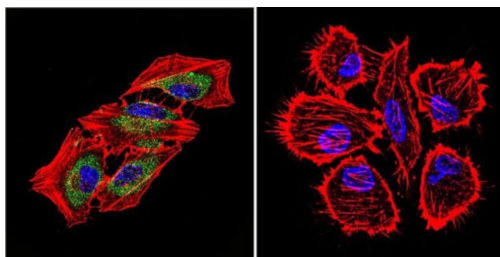
The MA3-008 antigen is recombinant human HSP70 over-expressed in E. coli. Epitope mapping with a panel of HSP70 deletion mutants suggests that the epitope recognized is located between amino acids 437-479 of human HSP70.

Product Images For HSP70 Monoclonal Antibody (2A4)



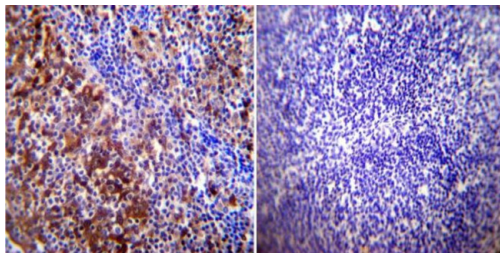
HSP70 Antibody (MA3-008)

Antibody specificity was demonstrated by CRISPR-Cas9 mediated knockout of target protein. A loss of signal was observed for target protein in HeLa Cas9 cell line transduced with HSP70 Lentiviral sgRNA compared to control cell line using HSP70 Monoclonal Antibody (2A4) (Product # MA3-008). {KO}



HSP70 Antibody (MA3-008) in ICC/IF

Immunofluorescent analysis of Heat Shock Protein 70 (Hsp70) in NCI-H1299 Cells. Cells were grown on chamber slides and fixed with formaldehyde prior to staining. Cells were probed without (control) or with a Heat Shock Protein 70 (Hsp70) monoclonal antibody (Product # MA3-008) at a dilution of 1:100 overnight at 4 C, washed with PBS and incubated with a DyLight-488 conjugated secondary antibody (Product # 35503). Heat Shock Protein 70 (Hsp70) staining (green), F-Actin staining with Phalloidin (red) and nuclei with DAPI (blue) is shown. Images were taken at 60X magnification.



HSP70 Antibody (MA3-008) in IHC (P)

Immunohistochemistry was performed on normal biopsies of deparaffinized Human tonsil tissue. To expose target proteins, heat induced antigen retrieval was performed using 10mM sodium citrate (pH6.0) buffer, microwaved for 8-15 minutes. Following antigen retrieval tissues were blocked in 3% BSA-PBS for 30 minutes at room temperature. Tissues were then probed at a dilution of 1:200 with a mouse monoclonal antibody recognizing Heat Shock Protein 70 (Product # MA3-008) or without primary antibody (negative control) overnight at 4°C in a humidified chamber. Tissues were washed extensively with PBST and endogenous peroxidase activity was quenched with a peroxidase suppressor. Detection was performed using a biotin-conjugated secondary antibody and SA-HRP, followed by colorimetric detection using DAB. Tissues were counterstained with hematoxylin and prepped for mounting.

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10 References

Western Blot (8)

Frontiers in immunology

Rainbow Trout (*Oncorhynchus Mykiss*) Intestinal Epithelial Cells as a Model for Studying Gut Immune Function and Effects of Functional Feed Ingredients.

"MA3-008 was used in Western Blotting to evaluate the effects of lipopolysaccharide and three functional feed ingredients in rainbow trout intestinal epithelial cell line cells grown on conventional culture plates and transwell membranes."

Authors: Wang J, Lei P, Gamil AAA, Lagos L, Yue Y, Schirmer K, Mydland LT, Øverland M, Krogdahl Å, Kortner TM

Year
2020

Species
Fish

Paricalcitol accelerates BACE1 lysosomal degradation and inhibits calpain-1 dependent neuronal loss in APP/PS1 transgenic mice.

"Published figure using HSP70 monoclonal antibody (Product # MA3-008) in Western Blot"

Authors: Fan YG,Guo T,Han XR,Liu JL,Cai YT,Xue H,Huang XS,Li YC,Wang ZY,Guo C

Year
2019

Species
Mouse

Dilution
1:2000

[View more WB references on thermofisher.com](#)

Neutralization (1)

Journal of virology

Heat shock cognate protein 70 is involved in rotavirus cell entry.

"MA3-008 was used in blocking/activating experiment to investigate the role of hsc70 in rotavirus cell entry"

Authors: Guerrero CA,Bouyssounade D,Zárate S,Isa P,López T,Espinosa R,Romero P,Méndez E,López S,Arias CF

Year
2002

Species
Non-human primate

Miscellaneous PubMed (1)

The Journal of clinical investigation

Cul4A-DDB1-mediated monoubiquitination of phosphoglycerate dehydrogenase promotes colorectal cancer metastasis via increased S-adenosylmethionine.

"MA3-008 was used in Mass spectrometry to reveal a potentially new role and mechanism of SAM-promoted tumor metastasis but also demonstrate a regulatory mechanism of PHGDH activity by monoubiquitination."

Authors: Zhang Y,Yu H,Zhang J,Gao H,Wang S,Li S,Wei P,Liang J,Yu G,Wang X,Li X,Li D,Yang W

Year
2021

Species
Human

More applications with references on thermofisher.com

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