Product Datasheet

HSP70/HSC70 Antibody (APC) (orb146785)

Catalog Number	orb146785
Category	Antibodies
Description	Mouse monoclonal to Hsp70 (APC). Hsp70 genes encode abundant heat-inducible 70-kDa hsps (hsp70s). In most eukaryotes hsp70 genes exist as part of a multigene family. They are found in most cellular compartments of eukaryotes including nuclei, mitochondria, chloroplasts, the endoplasmic reticulum and the cytosol, as well as in bacteria. The genes show a high degree of conservation, having at least 5O% identity. The N-terminal two thirds of hsp70s are more conserved than the C-terminal third. Hsp70 binds ATP with high affinity and possesses a weak ATPase activity which can be stimulated by binding to unfolded proteins and synthetic peptides. When hsc70 (constitutively expressed) present in mammalian cells was truncated, ATP binding activity was found to reside in an N-terminal fragment of 44 kDa which lacked peptide binding capacity. Polypeptide binding ability therefore resided within the C-terminal half. The structure of this ATP binding domain displays multiple features of nucleotide binding proteins. All hsp70s, regardless of location, bind proteins, particularly unfolded ones. The molecular chaperones of the hsp70 family recognize and bind to nascent polypeptide chains as well as partially folded intermediates of proteins preventing their aggregation and misfolding. The binding of ATP triggers a critical conformational change leading to the release of the bound substrate protein. The universal ability of hsp70s to undergo cycles of binding to and release from hydrophobic stretches of partially unfolded proteins determines their role in a great variety of vital intracellular functions such as protein synthesis, protein folding and oligomerization and protein transport.
Target	HSP70/HSC70
Clonality	Monoclonal
Species/Host	Mouse
Isotype	IgG2a

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Conjugation	APC
Reactivity	Bovine, Canine, Drosophila, Fish, Frog, Gallus, Guinea pig, Hamster, Human, Mouse, Other, Porcine, Rabbit, Rat, Sheep, Yeast
Concentration	1 mg/ml
Buffer/Preservatives	95.46mM Phosphate, 2.48mM MES and 2mM EDTA
Purification	Protein G Purified
Immunogen	Chicken HSP70/HSP90 complex
UniProt ID	**P08106**
MW	73kDa
Tested applications	ICC, IF, IHC, IP, WB
Dilution range	WB (1:1000), IHC (1:200), ICC/IF (1:200)
Application notes	1 µg/ml of SMC-106 was sufficient for detection of HSP70 and HSC70 in 20 µg of heat shocked HeLa cell lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.
Specificity	Detects ~72 (HSP) and ~73kDa (HSC).
Clone Number	BB70
Storage	Conjugated antibodies should be stored according to the product label
Note	For research use only
Entrez	**423504**
NCBI	**NP_001006686.1**

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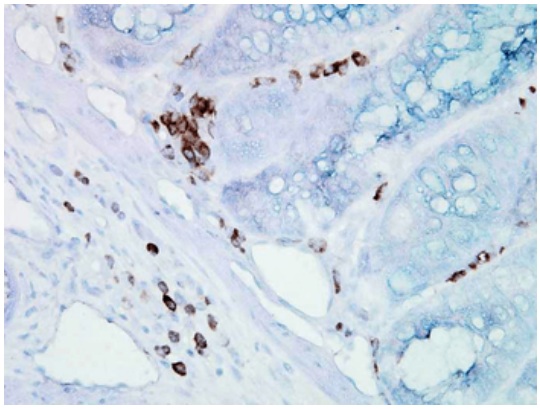
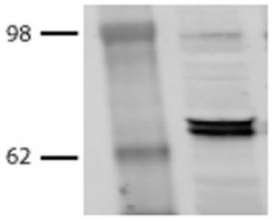


Immunohistochemistry analysis using Mouse Anti-Hsp70 Monoclonal Antibody, Clone BB70. Tissue: inflamed colon. Species: Mouse. Fixation: Formalin. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody at 1:10000 for 12 hours at 4°C. Secondary Antibody: Biotin Goat Anti-Mouse at 1:2000 for 1 hour at RT. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain at 200 µl for 2 minutes at RT. Localization: Inflammatory cells. Magnification: 40x. Inflammatory cells. HSP70/HSC70 stained brown.

Immunohistochemistry analysis using Mouse Anti-Hsp70 Monoclonal Antibody, Clone BB70. Tissue: colon carcinoma. Species: Human. Fixation: Formalin. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody at 1:10000 for 12 hours at 4°C. Secondary Antibody: Biotin Goat Anti-Mouse at 1:2000 for 1 hour at RT. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain at 200 µl for 2 minutes at RT. Localization: Inflammatory cells. Magnification: 40x. HSP70/HSC70 cells stained brown.



Western Blot analysis of Bovine MDBK cell lysates showing detection of Hsp70 protein using Mouse Anti-Hsp70 Monoclonal Antibody, Clone BB70. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody at 1:1000.

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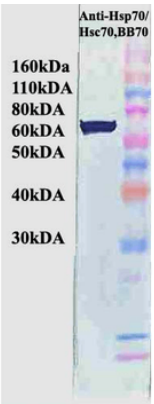
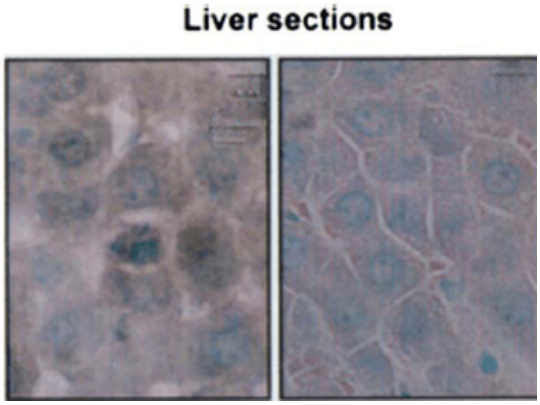
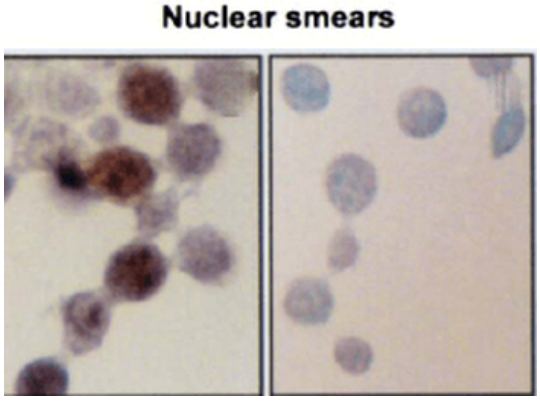


Western Blot analysis of Human Cervical cancer cell line (HeLa) lysate showing detection of Hsp70 protein using Mouse Anti-Hsp70 Monoclonal Antibody, Clone BB70. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody at 1:1000. Secondary Antibody: HRP Goat Anti-Rat.



Immunohistochemistry analysis using Mouse Anti-Hsp70 Monoclonal Antibody, Clone BB70. Tissue: hepatocytes. Species: Rat. Fixation: Paraffin Embedded. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody at 1:200. Liver sections were paraffin embedded. First pictures in series show two hours after exposure to stress, the second shows the control.



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-Hsp70 Monoclonal Antibody, Clone BB70. Tissue: hepatocyte nuclei. Species: Rat. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody at 1:200. Liver sections were paraffin embedded. First pictures in series show two hours after exposure to stress, the second shows the control.

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