

PRODUCT INFORMATION



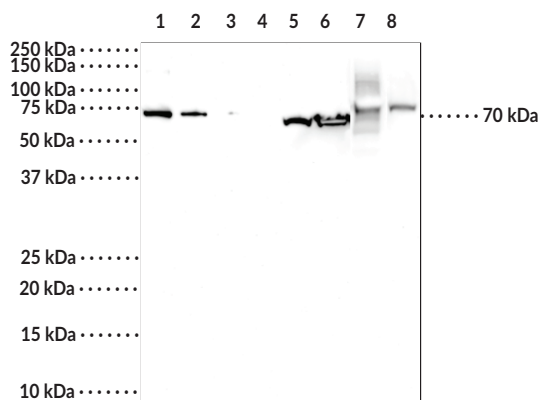
Hsp70 (HspA1A) Monoclonal Antibody (Clone 7F6)

Item No. 25694

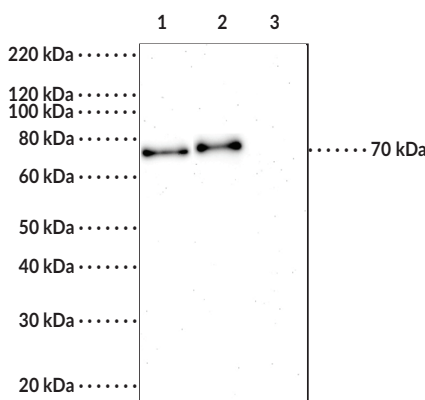
Overview and Properties

Contents:	This vial contains a batch specific quantity of 100 µg protein G-purified monoclonal antibody. Batch specific information can be obtained by contacting Technical Support.
Synonyms:	Heat Shock 70 kDa Protein 1A, Heat Shock Protein 70, Hsp70-1
Immunogen:	Full length human Hsp70 recombinant protein
Cross Reactivity:	(-) GRP78
Species Reactivity:	(+) Human, mouse Hsp70 (HspA1A), (-) Rat Hsp70 (HspA1A)
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Clone:	7F6
Host:	Mouse
Isotype:	IgG1
Applications:	ELISA, immunoprecipitation (IP), immunohistochemistry (IHC), and Western blot (WB); the recommended starting dilution for ELISA is 1:1000, 1:40 for IHC, 1:200 for WB, and 5 µg/test for IP. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: Hsp70 Recombinant Protein (0.02 µg)
Lane 2: Hsp70 Recombinant Protein (0.005 µg)
Lane 3: Hsp70 Recombinant Protein (0.001 µg)
Lane 4: GRP78 Recombinant Protein (0.1 µg)
Lane 5: A549 Cell Lysate (50 µg)
Lane 6: HeLa Heat Shock Cell Lysate (30 µg)
Lane 7: Mouse Kidney (40 µg)
Lane 8: Rat Intestine (40 µg)



IP Antibody: Hsp70 (HspA1A) Monoclonal Antibody (Clone 7F6) (Item No. 25694) at 5 µg
Western Antibody: Hsp70 (HspA1A) Polyclonal Antibody (Item No. 24532) at 1:200

Lane 1: HeLa Cell Lysate (20 µl)
Lane 2: A549 Cell Lysate (20 µl)
Lane 3: Negative Control (no lysate)

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

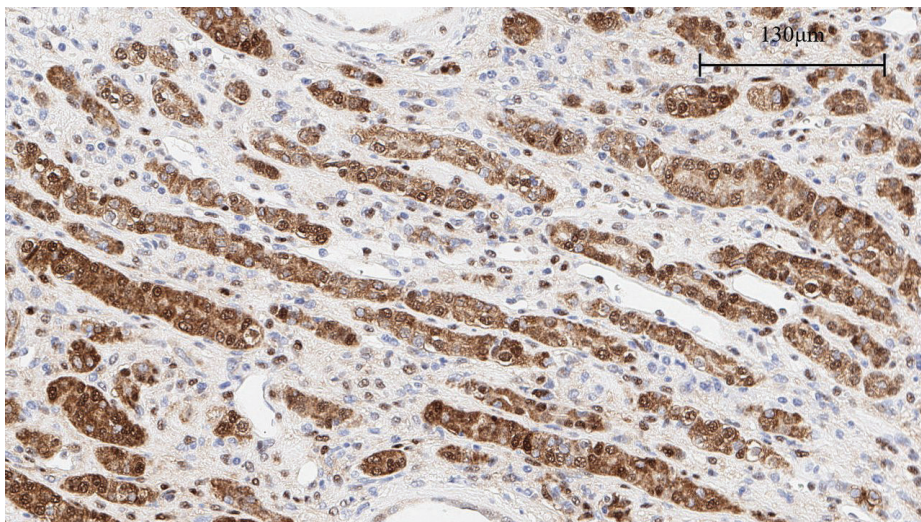
SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Immunohistochemistry analysis of formalin-fixed, paraffin-embedded (FFPE) human kidney tissue after heat induced antigen retrieval in pH 6.0 citrate buffer. After incubation with HSP70 monoclonal antibody (clone 7F6) (Item no. 25694), at a 1:40 dilution, slides were incubated with biotinylated secondary antibody, followed by alkaline phosphatase-streptavidin and chromogen (DAB).

Description

Heat shock protein 70s (Hsp70s) are abundant and stress-inducible 70 kDa molecular chaperone proteins encoded by a highly conserved, multigene family.¹ They are monomeric proteins that can be divided into two functional domains: an N-terminal ATPase domain and a substrate binding domain that contains a highly conserved EEVD motif at its C-terminus. Hsp70s are found in the cytosol, nuclei, endoplasmic reticulum, mitochondria, and chloroplasts of eukaryotes, as well as in bacteria. They function as molecular chaperones that assist in a wide range of cellular processes, including refolding of aggregated or misfolded proteins, co- and post-translational folding and assembly of nascent peptides, membrane translocation of secretory and organellar proteins, controlling activity of regulatory nuclear receptors, kinases and transcription factors, as well as cooperativity with the Hsp90 chaperone system in eukaryotes.² The Hsp70 chaperone cycle is ATP-dependent and initiated by transient interaction of the Hsp70 substrate binding domain with hydrophobic regions within a peptide or protein. It consists of an alteration between the low-affinity ATP-bound state with fast rates of substrate exchange and the high-affinity ADP bound state with slow rates of substrate exchange. Hsp70s are subject to a variety of post-translational modifications and their expression is upregulated under conditions of cellular stress and in a variety of disease states. Cayman's Hsp70 (HspA1A) Monoclonal Antibody (Clone 7F6) can be used for Western blot, ELISA, immunohistochemistry, and immunoprecipitation applications. The antibody recognizes Hsp70, also known as HspA1A, at ~70 kDa from human and mouse samples.

References

1. Boorstein, W.R., Ziegelhoffer, T., and Craig, E.A. Molecular evolution of the Hsp70 multigene family. *J. Mol. Evol.* **38**(1), 1-17 (1994).
2. Mayer, M.P. and Bukau, B. Hsp70 chaperones: Cellular functions and molecular mechanism. *Cell Mol. Life Sci.* **62**(6), 670-684 (2005).

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