

#4872 Store at -20°C

HSP70 Antibody


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Applications: WB, IHC-P	Reactivity: H M R Mk B	Sensitivity: Endogenous	MW (kDa): 72, 73	Source: Rabbit	UniProt ID: #P0DMV8	Entrez-Gene Id: 3303
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Product Usage Information	Application Western Blotting Immunohistochemistry (Paraffin)	Dilution 1:1000 1:150 - 1:600
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	HSP70 Antibody detects endogenous levels of total HSP70 protein (HSP70-Hom, HSP70-1) and HSC70.	
Species predicted to react based on 100% sequence homology:	Goat	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser254 of human HSP70 protein. Antibodies are purified by protein A and peptide affinity chromatography.	
Background	HSP70 and HSP90 are molecular chaperones expressed constitutively under normal conditions to maintain protein homeostasis and are induced upon environmental stress (1). Both HSP70 and HSP90 are able to interact with unfolded proteins to prevent irreversible aggregation and catalyze the refolding of their substrates in an ATP- and co-chaperone-dependent manner (1). HSP70 has a broad range of substrates including newly synthesized and denatured proteins, while HSP90 tends to have a more limited subset of substrates, most of which are signaling molecules. HSP70 and HSP90 often function collaboratively in a multi-chaperone system, which requires a minimal set of co-chaperones: HSP40, Hop, and p23 (2,3). The co-chaperones either regulate the intrinsic ATPase activity of the chaperones or recruit chaperones to specific substrates or subcellular compartments (1,4). When the ubiquitin ligase CHIP associates with the HSP70/HSP90 complex as a cofactor, the unfolded substrates are subjected to degradation by the proteasome (4). The biological functions of HSP70/HSP90 extend beyond their chaperone activity. They are essential for the maturation and inactivation of nuclear hormones and other signaling molecules (1,3). They also play a role in vesicle formation and protein trafficking (2).	
Background References	1. Nollen, E.A. and Morimoto, R.I. (2002) <i>J. Cell Sci.</i> 115, 2809-2816. 2. Young, J.C. et al. (2003) <i>Trends Biochem. Sci.</i> 28, 541-547. 3. Pratt, W.B. and Toft, D.O. (2003) <i>Exp. Biol. Med.</i> 228, 111-133. 4. Hohfeld, J. et al. (2001) <i>EMBO Rep.</i> 2, 885-890.	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting IHC-P: Immunohistochemistry (Paraffin)
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse GP: Guinea Pig Rab: rabbit All: all species expected

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