

HSP70 (D69) Antibody (Alexa Fluor® 647 Conjugate)

✓ 100 µl
(50 tests)

New more concentrated formulation

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

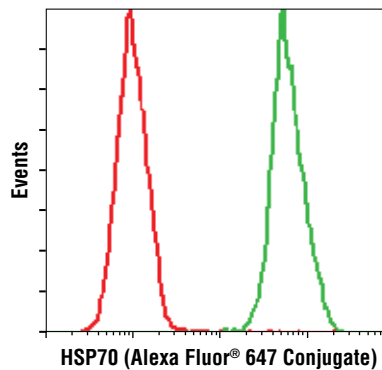
Entrez-Gene ID # 3304
Swiss-Prot Acc. # P08107

Applications	Species Cross-Reactivity*	Isotype
F Endogenous	H, M, R, Mk	Rabbit IgG

Description: This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 647 fluorescent dye and tested in-house for direct flow cytometric analysis of human cells. The unconjugated HSP70 (D69) Antibody #4876 reacts with human, mouse, rat and monkey HSP70 protein. CST expects that HSP70 Rabbit Antibody (Alexa Fluor® 647 Conjugate) will also recognize HSP70 in these species.

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 go 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).

Specificity/Sensitivity: HSP70 (D69) (Alexa Fluor® 647 Conjugate) Antibody detects endogenous levels of total HSP70 protein. This antibody does not cross-react with other HSPs.



Flow cytometric analysis of HeLa cells using HSP70 (D69) Antibody (Alexa Fluor® 647 Conjugate) (green) compared to the XP™ Rabbit (DA1E) mAb IgG Isotype Control (Alexa Fluor® 647 Conjugate) #2985 (red).

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asp69 of human HSP70. Antibodies are purified by protein A and peptide affinity chromatography. This antibody was conjugated to Alexa Fluor® 647 under optimal conditions with an F/P ratio of 2-6. The Alexa Fluor® 647 dye is maximally excited by red light (e.g. 633 nm He-Ne laser). Antibody conjugates of the Alexa Fluor® 647 dye produce bright far-red-fluorescence emission, with a peak at 665 nm.

Background References:

- (1) Nollen, E.A. and Morimoto, R.I. (2002) *J. Cell Sci.* 115, 2809–2816.
- (2) Young, J.C. et al. (2003) *Trends Biochem. Sci.* 28, 541–547.
- (3) Pratt, W.B. and Toft, D.O. (2003) *Exp. Biol. Med.* 228, 111–133.
- (4) Hohfeld, J. et al. (2001) *EMBO Rep.* 2, 885–890.

Storage: Supplied in PBS (pH 7.2), less than 0.1% sodium azide, 2mg/ml BSA. Store at 4°C. *Protect from light. Do not freeze.*

*Species cross-reactivity other than human is determined by western blot using the unconjugated antibody.

Recommended Antibody Dilutions:

Flow Cytometry 1:50

For application specific protocols please see the web page for this product at www.cellsignaling.com.

Please visit www.cellsignaling.com for a complete listing of recommended companion products.

The Alexa Fluor® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc., for research use only, except for use in combination with DNA microarrays. The Alexa Fluor® dyes (except for Alexa Fluor® 430 dye) are covered by pending and issued patents.

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