

#3488 Store at -20°C

Phospho-HSP90 α (Thr5/7) Antibody



✓ 100 μ l
(10 western blots)

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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.

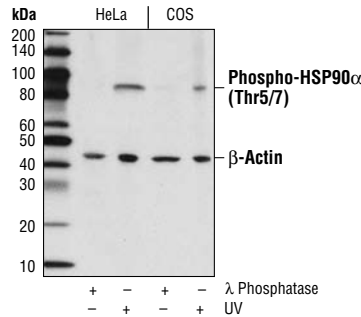
Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, M, R, Mk	90 kDa	Rabbit**

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).

Phospho-HSP90 α (Thr5/7) Antibody is directed against the HSP90 α threonine phosphorylation site at Thr5/7 that was identified at Cell Signaling Technology (CST) using PhosphoScan[®], CST's MS/MS platform for phosphorylation site discovery. Phosphorylation of HSP90 α at Thr5/7 was previously observed by the human double-stranded DNA-activated protein kinase (5). Please visit PhosphoSitePlus[™], CST's modification site knowledgebase, at www.phosphosite.org for more information.

Specificity/Sensitivity: Phospho-HSP90 α (Thr5/7) Antibody detects endogenous levels of HSP90 α only when phosphorylated at Thr5/7.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr5/7 of human HSP90 α . Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from HeLa and COS cells, treated with either λ phosphatase or UV, using Phospho-HSP90 α (Thr5/7) Antibody and β -Actin Antibody #4967 as a loading control.

Entrez-Gene ID #3320
Swiss-Prot Acc. #P07900

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting 1:1000

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

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

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.
- (5) Lees-Miller, S.P. and Anderson, C.W. (1989) *J Biol Chem* 264, 17275-80.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

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Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey 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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.