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Product datasheet for AP02511PU-N

HSF1 pSer303 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IHC, WB
Recommended Dilution:	Western Blot: 1/500~1/1000. Immunohistochemistry on Paraffin Sections: 1/50~1/100.
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	The antiserum was produced against synthesized phosphopeptide derived from Human HSF1 around the phosphorylation site of Serine 303 (P-P-S*p*-P-P).
Specificity:	This antibody detects endogenous levels of HSF1 only when phosphorylated at Serine 303.
Formulation:	PBS (without Mg2+ and Ca2+), pH 7.4 containing 150mM NaCl, 0.02% Sodium Azide and 50% Glycerol. State: Aff - Purified State: Liquid purified IgG fraction.
Concentration:	lot specific
Purification:	Affinity Chromatography using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.
Conjugation:	Unconjugated
Storage:	Store the antibody at -20°C. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
Gene Name:	heat shock transcription factor 1
Database Link:	Entrez Gene 3297 Human Q00613

View online »

Background:

All organisms respond to elevated temperatures and a variety of environmental stresses by rapid synthesis of heat shock RNAs and proteins. The regulation of heat shock gene transcription is mediated by the transcriptional activator, heat shock factor (HSF), which binds to heat shock response elements (HSEs). These HSEs are found as three repeats of a 5-nucleotide {nGAAn} module, arranged in alternating orientation and present upstream of all heat shock genes. The HSEs are highly conserved among species yet HSF purified from yeast, Drosophila and human have different molecular weights and the proteins do not show significant immunological cross reaction.

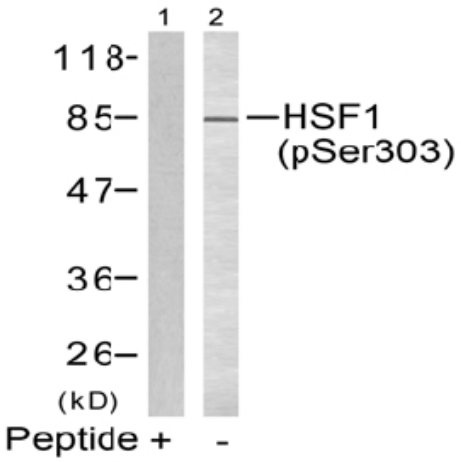
Two HSFs have been identified in human cells, HSF 1 and HSF 2, which bind to the same HSEs and have 38% sequence identity. These factors are activated by distinct stimuli, HSF 1 is responsive to classical stress signals such as heat, heavy metals and oxidative reagents, whereas HSF 2 is activated during hemin-mediated differentiation of human erythroleukemia cells.

HSF 1 exists constitutively in the cytoplasm and the nucleus of unstressed cells as a monomer which lacks DNA binding activity. Through an unknown signal generated during stress, HSF 1 becomes activated to a nuclear localized, trimeric state which binds to DNA. The phosphorylation of HSF 1 is necessary for maximal transcription of heat shock genes.

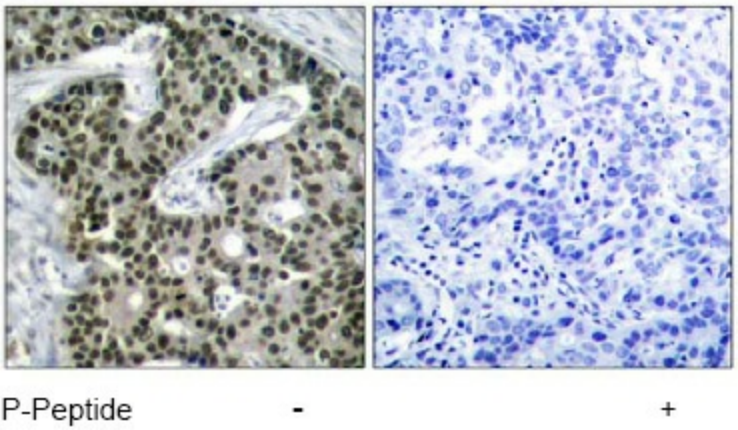
Synonyms:

HSTF1, HSF-1

Product images:



Western blot analysis of extracts from MCF7 cells, using HSF1 antibody pSer303. (Lane 2) and the same antibody preincubated with blocking peptide (Lane 1).



Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue using HSF1 antibody pSer303. (Left) and the same antibody preincubated with blockig peptide (Right).