

Product datasheet for **TA326414**

HSF1 Rat Monoclonal Antibody [Clone ID: 10H8]

Product data:

Product Type:	Primary Antibodies
Clone Name:	10H8
Applications:	IF
Recommended Dilution:	1ug/ml was sufficient for detection of HSF1 by ECL immunoblot in 20ug of HeLa lysate.
Reactivity:	Human, Mouse, Rat, Bovine, Guinea Pig, Hamster, Rabbit, Monkey
Host:	Rat
Isotype:	IgG1
Clonality:	Monoclonal
Immunogen:	Purified recombinant HSF1 of mouse origin, epitope mapping to amino acids 378-395
Formulation:	PBS pH7.4, 50% glycerol, 0.09% sodium azide
Concentration:	lot specific
Purification:	Protein G Purified
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	heat shock transcription factor 1
Database Link:	NP_005517 Entrez Gene 15499 MouseEntrez Gene 79245 RatEntrez Gene 714078 MonkeyEntrez Gene 3297 Human Q00613



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Background:

HSF1, or heat shock factor 1, belongs to a family of Heat Shock transcription factors that activate the transcription of genes encoding products required for protein folding, processing, targeting, degradation, and function. The up-regulation of HSP (heat shock proteins) expression by stressors is achieved at the level of transcription through a heat shock element (HSE) and a transcription factor (HSF). Most HSFs have highly conserved amino acid sequences. On all HSFs there is a DNA binding domain at the Nterminus. Hydrophobic repeats located adjacent to this binding domain are essential for the formation of active trimers. Towards the C-terminal region another short hydrophobic repeat exists, and is thought to be necessary for suppression of trimerization. There are two main heat shock factors, 1 and 2. Mouse HSF1 exists as two isoforms, however in higher eukaryotes HSF1 is found in a diffuse cytoplasmic and nuclear distribution in un-stressed cells. Once exposed to a multitude of stressors, it localizes to discrete nuclear granules within seconds. As it recovers from stress, HSF1 dissipates from these granules to a diffuse nucleoplasmic distribution. HSF2 on the other hand is similar to mouse HSF1, as it exists as two isoforms, the alpha form being more transcriptionally active than the smaller beta form. Various experiments have suggested that HSF2 may have roles in differentiation and development.

Synonyms:

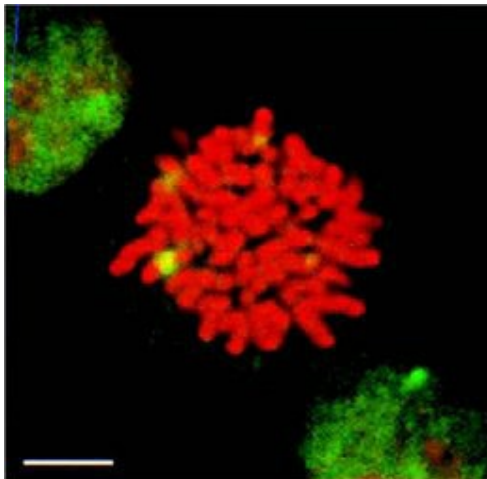
HSTF1

Note:

Detects an ~85kDa protein in unstressed cell lysates, and an ~95kDa protein in heat shocked cell lysates, corresponding to the molecular mass of inactive and active forms of HSF1 on SDS PAGE immunoblots.

Protein Families:

Transcription Factors

Product images:

HSF1 granules present in heat-shocked mitotic cells (green) detected by IF in mitotic heat shocked HeLa cells. Courtesy of Morimoto Lab, Northwestern University, USA.