



Product Information

Anti-Heat Shock Factor 1 (HSF1)

Developed in Rabbit
Affinity Isolated Antibody

Product Number **H 4163**

Product Description

Anti Heat Shock Factor 1 (HSF1) is developed in rabbit using as immunogen a synthetic peptide corresponding to amino acids 434-448 of mouse HSF1, conjugated to KLH via an N-terminal added cysteine residue. The immunizing sequence is conserved in rat, and differs from the human sequence by two amino acids. The antibody is affinity purified on the immunizing peptide immobilized on agarose.

Anti Heat Shock Factor 1 (HSF1) reacts specifically with Heat Shock factor 1 by immunoblotting (approx. 75 kDa). Staining of the HSF1 band in immunoblotting is specifically inhibited by the HSF1 immunizing peptide.

The heat shock response is a cellular defense mechanism against the harmful effects of physiological and environmental stress, such as heat shock. It is mainly regulated at the level of transcription by heat shock transcription factors (HSFs).¹⁻³ HSFs bind to heat shock elements on upstream sequences of heat shock genes.⁴ Four members of the HSF family have been identified in vertebrates: HSF1, HSF2, HSF3, and HSF4.⁵⁻⁷ Of these four members, HSF1 (529 amino acids) is the major stress-inducible form. Under normal conditions of cell growth, the majority of HSF1 exists in a repressed state, and is associated transiently with the molecular chaperones Hsp90, Hsp70, and Hsp40. In response to physiological stress signals, this equilibrium is shifted to a DNA bound homotrimeric state that subsequently becomes hyperphosphorylated and acquires transcriptional activity.^{8,9} HSF1 can also associate with HSF2, a state enhanced by heat shock. The heterodimers possess enhanced activity towards activation of the hsp70 promoter.¹⁰ Disease states can result from impaired heat shock response. Thus, the impaired heat shock response of motor neurons from amyotrophic lateral sclerosis (ALS) patients results from low levels of Hsp70, due to failure to activate the HSF1 driven response.¹¹

Reagent

Anti-Heat Shock Factor 1 (HSF1) is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: Approx. 1.0 mg/ml

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

By immunoblotting, a working antibody concentration of 0.5-1.0 µg/ml is recommended using HeLa cell lysates.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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