



Catalog Number: CH22133

Host: Chicken

Product Type: Chicken Polyclonal

Species Reactivity: Human, Unreactive with rodent

Immunogen Sequence: Recombinant full length human HSP27 expressed in and purified from *E. coli*

Format: Supplied as an aliquot of IgY preparation plus 5mM NaN3

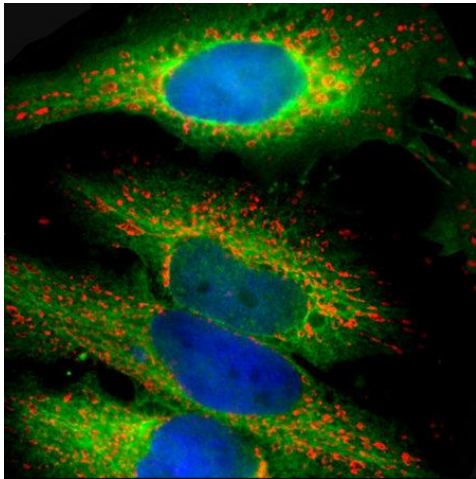
Applications: Immunofluorescence: 1:1,000
Immunohistochemistry: 1:1,000
Western Blot: 1:2,000-5,000

Storage: Dilutions listed as a recommendation. Optimal dilution should be determined by investigator. The antibody can be stored at 2° - 8° C for 12 months without detectable loss of activity. Avoid repeated freeze-thaw cycles.

Application Notes

Description/Data

The heat shock proteins were discovered since they are heavily upregulated when cells are stressed by temperatures above the normal physiological range. They are expressed in unstressed cells also and have a normal function as chaperones, helping other proteins to fold correctly, but are required in much greater amounts if the cell or tissue is stressed by heat. Heat shock protein 27 (HSP27) is an abundant protein which functions as a chaperone but has many other functions. Upregulation of this protein is protective against neurodegenerative diseases at least in certain mouse models. Point mutations in the HSP27 gene are associated with two neurological diseases, Charcot-Marie-Tooth disease type 2F and distal hereditary motor neuropathy IIB. These diseases are associated with axonal loss apparently following defects in the transport of neurofilaments. HSP27 may bind cytoplasmic cytochrome c released from mitochondria which would otherwise normally activate the caspase apoptotic cascade. HSP27 is a major phosphoprotein of cells primarily under the influence of the p38/SAP kinase and JNK pathways. The central region of the HSP27 molecule corresponds to a crystallin domain, a compact module found in many chaperones and heat shock proteins.



HSP27 is implicated in several other aspects of cell signaling and response to cancer and other diseases. The amino acid sequence of HSP27 is relatively poorly conserved across species boundaries, so there are 159 amino acid identities between human, cow, rat and mouse HSP27, out of 204-209 amino acids. This variability results in some antibodies being species specific while others work across many species.

The CPCA-HSP27 antibody was made against full length recombinant HSP27 expressed in and purified from *E. coli*. This antibody binds to an epitope on the human molecule missing from the rat and mouse homologue, likely variable peptides in the N and C terminal of human HSP27.

Image: Immunofluorescent analysis of HeLa cells stained with chicken pAb to HSP27, CH22133, dilution 1:1,000 in green, and costained with mouse mAb to HSP60, dilution 1:5,000 in red. Blue is DAPI staining of nuclear DNA. The CPCA-HSP27 antibody produces strong cytoplasmic staining, while the HSP60 antibody specifically labels mitochondria.

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