SANTA CRUZ BIOTECHNOLOGY, INC.

# HSP 40 (N-19): sc-1801

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*The Power to Question*

## BACKGROUND

Heat shock protein 40 (HSP 40) family proteins bind to HSP 70 through their J-domain and regulate the function of HSP 70 by stimulating HSP 70 ATPase activity. HSP 40, also known as DnaJ, functions together with DnaK (HSP 70) and GrpE as a molecular chaperone, involving them in assembly and disassembly of protein complexes, protein folding, renaturation of denatured proteins, prevention of protein aggregation and protein export. HSP 40 stimulates the association between HSC 70 and HIP and translocates rapidly from the cytoplasm to the nuclei, and especially to the nucleoli, upon heat shock. There are five known HSP 40 family proteins.

## CHROMOSOMAL LOCATION

Genetic locus: DNAJB1 (human) mapping to 19p13.12; Dnajb1 (mouse) mapping to 8 C2.

## SOURCE

HSP 40 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of HSP 40 protein 1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1801 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

HSP 40 (N-19) is recommended for detection of HSP 40 protein 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HSP 40 (N-19) is also recommended for detection of HSP 40 protein 1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for HSP 40 siRNA (h): sc-35599, HSP 40 siRNA (m): sc-40656, HSP 40 shRNA Plasmid (h): sc-35599-SH, HSP 40 shRNA Plasmid (m): sc-40656-SH, HSP 40 shRNA (h) Lentiviral Particles: sc-35599-V and HSP 40 shRNA (m) Lentiviral Particles: sc-40656-V.

Molecular Weight of HSP 40: 40 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or HeLa + heat shock cell lysate: sc-2272.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## SELECT PRODUCT CITATIONS


1. Kelland, L.R., et al. 2001. Preclinical antitumor activity and pharmacodynamic studies with the farnesyl protein transferase inhibitor R115777 in human breast cancer. Clin. Cancer Res. 7: 3544-3550.
2. Auluck, H.Y., et al. 2002. Chaperone suppression of α-synuclein toxicity in a *Drosophila* model for Parkinson's disease. Science 295: 865-868.
3. Smith, V., et al. 2002. Establishment and characterization of acquired resistance to the farnesyl protein transferase inhibitor R115777 in a human colon cancer cell line. Clin. Cancer Res. 8: 2002-2009.
4. Thierry, F., et al. 2004. A genomic approach reveals a novel mitotic pathway in Papillomavirus carcinogenesis. Cancer Res. 64: 895-903.
5. Cappello, F., et al. 2011. Convergent sets of data from *in vivo* and *in vitro* methods point to an active role of Hsp60 in chronic obstructive pulmonary disease pathogenesis. PLoS ONE 6: e28200.


## PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.