

# HSPA6 (B-8): sc-376193

## BACKGROUND

The heat shock proteins (HSPs) comprise a group of highly conserved, abundantly expressed proteins with diverse functions, including the assembly and sequestering of multi-protein complexes, the transportation of nascent polypeptide chains across cellular membranes and the regulation of protein folding. HSPA6 (heat shock 70 kDa protein 6), also known as HSP70B, is a 643 amino acid protein that belongs to the HSP family and, like other HSP proteins, mediates protein folding within the cytosol, as well as within other organelles throughout the cell. The gene encoding HSPA6 maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

## REFERENCES

- Voellmy, R., et al. 1985. Isolation and functional analysis of a human 70,000-dalton heat shock protein gene segment. *Proc. Natl. Acad. Sci. USA* 82: 4949-4953.
- Schiller, P., et al. 1988. *Cis*-acting elements involved in the regulated expression of a human HSP70 gene. *J. Mol. Biol.* 203: 97-105.
- Leung, T.K., et al. 1990. The human heat-shock protein family. Expression of a novel heat-inducible HSP70 (HSP70B') and isolation of its cDNA and genomic DNA. *Biochem. J.* 267: 125-132.
- Leung, T.K., et al. 1992. The human heat-shock genes HSPA6 and HSPA7 are both expressed and localize to chromosome 1. *Genomics* 12: 74-79.
- Grosz, M.D., et al. 1992. Syntenic conservation of HSP70 genes in cattle and humans. *Genomics* 14: 863-868.
- Brzustowicz, L.M., et al. 2002. Fine mapping of the schizophrenia susceptibility locus on chromosome 1q22. *Hum. Hered.* 54: 199-209.
- Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 140555. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Liu, Y., et al. 2008. HSP70 is associated with endothelial activation in placental vascular diseases. *Mol. Med.* 14: 561-566.

## CHROMOSOMAL LOCATION

Genetic locus: HSPA6 (human) mapping to 1q23.3.

## SOURCE

HSPA6 (B-8) is a mouse monoclonal antibody raised against amino acids 591-640 mapping near the C-terminus of HSPA6 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

HSPA6 (B-8) is recommended for detection of HSPA6 of human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HSPA6 siRNA (h): sc-88826, HSPA6 shRNA Plasmid (h): sc-88826-SH and HSPA6 shRNA (h) Lentiviral Particles: sc-88826-V.

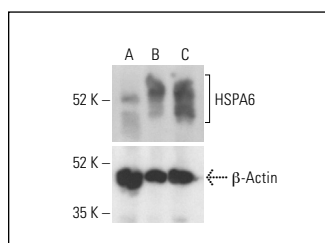
Molecular Weight of HSPA6: 70 kDa.

Positive Controls: HSPA6 (h3): 293T Lysate: sc-173854 or chemically-treated A549 whole cell lysate.

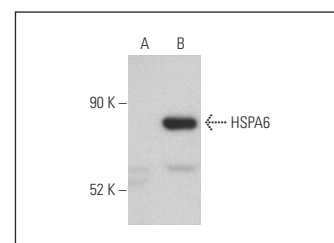
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



HSPA6 (B-8): sc-376193. Western blot analysis of HSPA6 expression in untreated (A) and chemically-treated (B, C) A549 whole cell lysates. β-Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



HSPA6 (B-8): sc-376193. Western blot analysis of HSPA6 expression in non-transfected (A) and human HSPA6 transfected: sc-173854 (B) 293T whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

## SELECT PRODUCT CITATIONS

- Xu, S., et al. 2019. Inhibition of protein disulfide isomerase in glioblastoma causes marked downregulation of DNA repair and DNA damage response genes. *Theranostics* 9: 2282-2298.

## 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.