

HSPA14 (S-15): sc-160434

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 poly-peptide chains across cellular membranes and the regulation of protein folding. HSPA14 (heat shock 70kDa protein 14), also known as HSP70-4 or HSP70L1, is a 509 amino acid novel HSP protein derived from human dendritic cells. Belonging to the heat shock protein 70 family, HSPA14 is thought to promote dendritic cell maturation. It is also suggested that HSPA14 stimulates secretion of the proinflammatory cytokines interleukin 12p70 (IL-12p70), IL-1 β , TNF α , and the chemokines IP-10, MIP-1 α , MIP-1 β , and normal T cell expressed and secreted (RANTES).

REFERENCES

- Voellmy, R., et al. 1985. Isolation and functional analysis of a human 70 kDa heat shock protein gene segment. *Proc. Natl. Acad. Sci. USA* 82: 4949-4953.
- Leung, T.K., et al. 1990. The human heat-shock protein family. Expression of a novel heat-inducible HSP 70 (HSP70B') and isolation of its cDNA and genomic DNA. *Biochem. J.* 267: 125-132.
- Milner, C.M. and Campbell, R.D. 1990. Structure and expression of the three MHC-linked HSP 70 genes. *Immunogenetics* 32: 242-251.
- Milner, C.M. and Campbell, R.D. 1992. Polymorphic analysis of the three MHC-linked HSP 70 genes. *Immunogenetics* 36: 357-362.
- Ito, Y., et al. 1998. Genomic structure of the spermatid-specific HSP 70 homolog gene located in the class III region of the major histocompatibility complex of mouse and man. *J. Biochem.* 124: 347-353.
- Wan, T., et al. 2004. Novel heat shock protein HSP70L1 activates dendritic cells and acts as a Th1 polarizing adjuvant. *Blood* 103: 1747-1754.
- Wu, Y., et al. 2005. HSP 70-like protein 1 fusion protein enhances induction of carcinoembryonic antigen-specific CD8⁺ CTL response by dendritic cell vaccine. *Cancer Res.* 65: 4947-4954.
- Otto, H., et al. 2005. The chaperones MPP11 and HSP 70L1 form the mammalian ribosome-associated complex. *Proc. Natl. Acad. Sci. USA* 102: 10064-10069.
- Zeng, R., et al. 2008. Protective effect of a RSV subunit vaccine candidate G1F/M2 was enhanced by a HSP 70-Like protein in mice. *Biochem. Biophys. Res. Commun.* 377: 495-499.

CHROMOSOMAL LOCATION

Genetic locus: HSPA14 (human) mapping to 10p13; Hspa14 (mouse) mapping to 2 A1.

SOURCE

HSPA14 (S-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HSPA14 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-160434 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HSPA14 (S-15) is recommended for detection of HSPA14 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other HSPA family members.

HSPA14 (S-15) is also recommended for detection of HSPA14 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for HSPA14 siRNA (h): sc-90528, HSPA14 siRNA (m): sc-146097, HSPA14 shRNA Plasmid (h): sc-90528-SH, HSPA14 shRNA Plasmid (m): sc-146097-SH, HSPA14 shRNA (h) Lentiviral Particles: sc-90528-V and HSPA14 shRNA (m) Lentiviral Particles: sc-146097-V.

Molecular Weight of HSPA14: 55 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224.

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) 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.

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.

PROTOCOLS

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