

HSPC300 (D-22): sc-133682

BACKGROUND

HSPC300 (haematopoietic stem cell protein 300) is also known as probable protein BRICK1 or C3orf10 (chromosome 3 open reading frame 10) and is a 75 amino acid protein that is expressed as 2 isoforms and localizes to both the cytoplasm and the cytoskeleton. HSPC300 is thought to regulate cytoskeletal organization and Actin polymerization. Free HSPC300 exists as homotrimers prior to its incorporation into the WAVE complex. The WAVE complex includes five proteins, one of which is HSPC300, that regulate the Arc (Arp2/3 complex) which is responsible for Actin nucleation and is Rac 1-dependent. Because HSPC300 is a highly conserved subunit of the WAVE complex across many species, it is thought to have the same or similar functions in many different organisms. In *Drosophila*, the WAVE/Arc pathway may affect the development of the nervous system. HSPC300 is thought to localize to axons of the central nervous system of *Drosophila* embryos and thus may also be involved in axonogenesis. In addition, HSPC300 is thought to be necessary for synaptic morphogenesis by motoneurons. In mice, the knockout of the WAVE complex leads to learning and memory defects, and it is therefore hypothesized that HSPC300 may also be involved in cognitive functions. Genetic depletion of HSPC300 results in cytoskeletal abnormalities and prevents cytokinesis of cells, suggesting that decreased levels of HSPC300 may be associated with tumor suppression.

REFERENCES

- Eden, S., et al. 2002. Mechanism of regulation of WAVE1-induced Actin nucleation by Rac 1 and Nck. *Nature* 418: 790-793.
- Maranchie, J.K., et al. 2004. Solid renal tumor severity in von Hippel Lindau disease is related to germline deletion length and location. *Hum. Mutat.* 23: 40-46.
- Gautreau, A., et al. 2004. Purification and architecture of the ubiquitous WAVE complex. *Proc. Natl. Acad. Sci. USA* 101: 4379-4383.
- Le, J., et al. 2006. *Arabidopsis* BRICK1/HSPC300 is an essential WAVE-complex subunit that selectively stabilizes the Arp2/3 activator SCAR2. *Curr. Biol.* 16: 895-901.

CHROMOSOMAL LOCATION

Genetic locus: BRK1 (human) mapping to 3p25.3; Brk1 (mouse) mapping to 6 E3.

SOURCE

HSPC300 (D-22) is a Protein A purified rabbit polyclonal antibody raised against synthetic HSPC300 peptide of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

STORAGE

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

APPLICATIONS

HSPC300 (D-22) is recommended for detection of HSPC300 of human and zebrafish origin, 6720456B07Rik of mouse origin and the corresponding rat homolog 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).

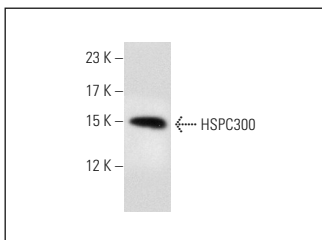
HSPC300 (D-22) is also recommended for detection of HSPC300 in additional species, including canine.

Suitable for use as control antibody for HSPC300 siRNA (h): sc-78028, 6720456B07Rik siRNA (m): sc-140474, HSPC300 shRNA Plasmid (h): sc-78028-SH, 6720456B07Rik shRNA Plasmid (m): sc-140474-SH, HSPC300 shRNA (h) Lentiviral Particles: sc-78028-V and 6720456B07Rik shRNA (m) Lentiviral Particles: sc-140474-V.

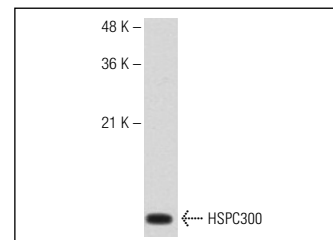
Molecular Weight of HSPC300: 8 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Ramos cell lysate: sc-2216 or Hep G2 cell lysate: sc-2227.

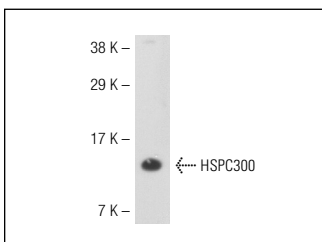
DATA



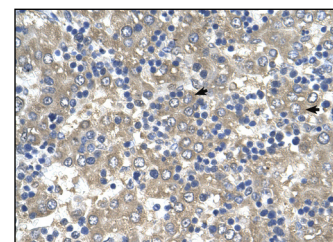
HSPC300 (D-22): sc-133682. Western blot analysis of HSPC300 expression in Ramos whole cell lysate.



HSPC300 (D-22): sc-133682. Western blot analysis of HSPC300 expression in Hep G2 whole cell lysate.



HSPC300 (D-22): sc-133682. Western blot analysis of HSPC300 expression in K-562 whole cell lysate.



HSPC300 (D-22): sc-133682. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human liver tissue showing cytoplasmic localization.

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.