

HSPA12B (C-4): sc-393635

BACKGROUND

Heat shock proteins (HSPs) are associated with stress responses and are abundant in cells. HSP 70 is the largest family of HSPs that function as molecular chaperones. HSP 70s are involved in many processes including protein synthesis, folding, assembly, trafficking between cellular compartments and degradation. HSPA12B (heat shock 70 kDa protein 12B) is a 686 amino acid protein that is abundantly expressed in the endothelial cells of muscle and heart, and is also expressed in liver and kidney. HSPA12B belongs to the heat shock protein 70 family because it contains a heat shock protein 70 (HSP 70) ATPase domain. HSPA12B is thought to be involved in angiogenesis, and as such is involved in stress signaling responses concerning wounds. HSPA12B is upregulated in atherosclerotic lesions, which suggests involvement in atherogenesis. However, increased expression of HSPA12B also increases HSP 70 concentrations, suggesting that HSPA12B could be involved in an attempt to protect cells from atherosclerotic damage.

REFERENCES

- Han, Z., et al. 2003. Two Hsp70 family members expressed in atherosclerotic lesions. *Proc. Natl. Acad. Sci. USA* 100: 1256-1261.
- Steagall, R.J., et al. 2006. HSPA12B is predominantly expressed in endothelial cells and required for angiogenesis. *Arterioscler. Thromb. Vasc. Biol.* 26: 2012-2018.
- Hu, G., et al. 2006. A novel endothelial-specific heat shock protein HSPA12B is required in both zebrafish development and endothelial functions *in vitro*. *J. Cell Sci.* 119: 4117-4126.

CHROMOSOMAL LOCATION

Genetic locus: HSPA12B (human) mapping to 20p13; Hspa12b (mouse) mapping to 2 F1.

SOURCE

HSPA12B (C-4) is a mouse monoclonal antibody raised against amino acids 1-63 mapping at the N-terminus of HSPA12B of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HSPA12B (C-4) is available conjugated to agarose (sc-393635 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393635 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393635 PE), fluorescein (sc-393635 FITC), Alexa Fluor® 488 (sc-393635 AF488), Alexa Fluor® 546 (sc-393635 AF546), Alexa Fluor® 594 (sc-393635 AF594) or Alexa Fluor® 647 (sc-393635 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393635 AF680) or Alexa Fluor® 790 (sc-393635 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

HSPA12B (C-4) is recommended for detection of HSPA12B of mouse, rat and 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), 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).

Suitable for use as control antibody for HSPA12B siRNA (h): sc-75310, HSPA12B siRNA (m): sc-146096, HSPA12B shRNA Plasmid (h): sc-75310-SH, HSPA12B shRNA Plasmid (m): sc-146096-SH, HSPA12B shRNA (h) Lentiviral Particles: sc-75310-V and HSPA12B shRNA (m) Lentiviral Particles: sc-146096-V.

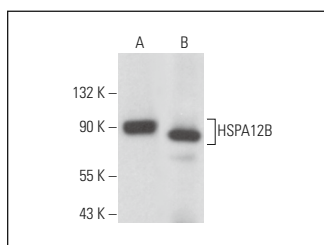
Molecular Weight of HSPA12B: 76 kDa.

Positive Controls: human heart extract: sc-363763 or Neuro-2A whole cell lysate: sc-364185.

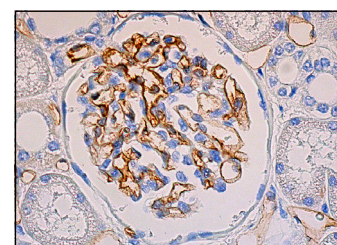
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



HSPA12B (C-4): sc-393635. Western blot analysis of HSPA12B expression in Neuro-2A whole cell lysate (A) and human heart tissue extract (B).



HSPA12B (C-4): sc-393635. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane staining of cells in glomeruli.

SELECT PRODUCT CITATIONS

- Huang, Y., et al. 2021. The expression of heat shock protein A12B (HSPA12B) in non-Hodgkin's lymphomas. *Ann. Transl. Med.* 9: 1462.

RESEARCH USE

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