SANTA CRUZ BIOTECHNOLOGY, INC.

HES7 (W-22): sc-133652

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Hairy and enhancer of split 7 (HES7) is a 225 amino acid transcriptional repressor protein. Localized to the nucleus, HES7 represses transcription of N box- and E box-containing promoters. HES7, along with family member HES1, is thought to cooperatively regulate somite formation in the presomitic mesoderm. HES7 may also be essential for coordinated somite segmentation by acting as a segmentation clock. HES7 contains one basic helix-loop-helix (bHLH) domain and one orange domain. Mutations in HES7 have been found to cause spondylocostal dysostosis, an autosomal recessive disorder characterized by deformities of the chest and spine.

REFERENCES

1. Bessho, Y., Miyoshi, G., Sakata, R. and Kageyama, R. 2001. HES7: a bHLH-type repressor gene regulated by notch and expressed in the presomitic mesoderm. Genes Cells 6: 175-185.
2. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608059. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Olsen, J.V., Blagoev, B., Gnad, F., Macek, B., Kumar, C., Mortensen, P. and Mann, M. 2006. Global, *in vivo,* and site-specific phosphorylation dynamics in signaling networks. Cell 127: 635-648.
4. Zhu, H. and Dhar, P.K. 2006. Transient block of receptor may be a mechanism controlling unidirectional propagation of signaling. IEEE Trans. Nanobioscience 5: 193-203.
5. Katoh, M. and Katoh, M. 2006. Notch ligand, JAG1, is evolutionarily conserved target of canonical WNT signaling pathway in progenitor cells. Int. J. Mol. Med. 17: 681-685.
6. Zeiser, S., Liebscher, H.V., Tiedemann, H., Rubio-Aliaga, I., Przemeck, G.K., de Angelis, M.H. and Winkler, G. 2006. Number of active transcription factor binding sites is essential for the HES7 oscillator. Theor. Biol. Med. Model. 3: 11.
7. Katoh, M. and Katoh, M. 2007. Notch signaling in gastrointestinal tract (review). Int. J. Oncol. 30: 247-251.

CHROMOSOMAL LOCATION

Genetic locus: HES7 (human) mapping to 17p13.1; Hes7 (mouse) mapping to 11 B3.

SOURCE

HES7 (W-22) is an affinity purified rabbit polyclonal antibody raised against synthetic HES7 peptide of human origin.

PRODUCT

Each vial contains 50 µg IgG in 0.5 ml of 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

HES7 (W-22) is recommended for detection of HES7 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).

HES7 (W-22) is also recommended for detection of HES7 in additional species, including equine, bovine and canine.

Suitable for use as control antibody for HES7 siRNA (h): sc-75247, HES7 siRNA (m): sc-75248, HES7 shRNA Plasmid (h): sc-75247-SH, HES7 shRNA Plasmid (m): sc-75248-SH, HES7 shRNA (h) Lentiviral Particles: sc-75247-V and HES7 shRNA (m) Lentiviral Particles: sc-75248-V.

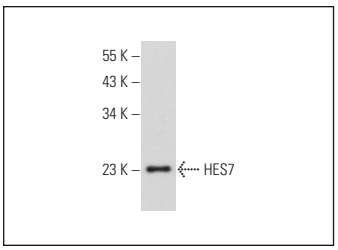
Molecular Weight of HES7: 25 kDa.

Positive Controls: NIH/3T3 nuclear extract: sc-2138.

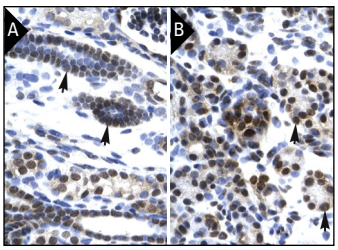
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



HES7 (W-22): sc-133652. Western blot analysis of HES7 expression in NIH/3T3 nuclear extract.



HES7 (W-22): sc-133652. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human kidney tissue showing nuclear localization (**A**,**B**).

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.