SANTA CRUZ BIOTECHNOLOGY, INC.

HES7 (W-14): sc-69501

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.
8. Sparrow, D.B., Guillén-Navarro, E., Fatkin, D. and Dunwoodie, S.L. 2008. Mutation of hairy and enhancer of split 7 in humans causes spondylocostal dysostosis. Hum. Mol. Genet. 17: 3761-3766.

CHROMOSOMAL LOCATION

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

SOURCE

HES7 (W-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HES7 of human origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-69501 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-69501 X, 200 µg/0.1 ml.

APPLICATIONS

HES7 (W-14) 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), 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 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.

HES7 (W-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HES7: 25 kDa.

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.

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.