

HES1 (h): 293T Lysate: sc-113854

BACKGROUND

The *Drosophila* Hairless and enhancer of split genes encode basic helix-loop-helix (bHLH) transcriptional repressors that function in the Notch signaling pathway and control segmentation and neural development during embryogenesis. The mammalian homolog of *Drosophila* Hairless and enhancer of split are the HES gene family members HES1-6, which also encode bHLH transcriptional repressors that regulate myogenesis and neurogenesis. The HES family members form a complex with TLE, the mammalian homolog of groucho, and this interaction is mediated by the carboxy-terminal WRPW motif of the HES proteins. The HES/TLE complex functions by directly binding to DNA instead of interfering with activator proteins. Most HES family members, including HES1 and HES5, preferentially bind to the N box (CACNAG) as opposed to the E box (CANNTG). HES1 and HES2 are expressed in a variety of adult and embryonic tissues.

REFERENCES

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3. Ishibashi, M., Sasai, Y., Nakanishi, S. and Kageyama, R. 1993. Molecular characterization of HES2, a mammalian helix-loop-helix factor structurally related to *Drosophila* Hairless and enhancer of split. *Eur. J. Biochem.* 215: 645-652.
4. Takebayashi, K., Sasai, Y., Sakai, Y., Watanabe, T., Nakanishi, S. and Kageyama, R. 1994. Structure, chromosomal locus and promoter analysis of the gene encoding the mouse helix-loop-helix factor HES1. Negative autoregulation through the multiple N-box elements. *J. Biol. Chem.* 269: 5150-5156.
5. Fisher, A.L., Ohsako, S. and Caudy, M. 1996. The WRPW motif of the Hairless-related basic helix-loop-helix repressor proteins acts as a 4 amino-acid transcription repression and protein-protein interaction domain. *Mol. Cell. Biol.* 16: 2670-2677.
6. Grbavec, D. and Stifani, S. 1996. Molecular interaction between TLE1 and the carboxyl-terminal domain of HES-1 containing the WRPW motif. *Biochem. Biophys. Res. Commun.* 223: 701-705.
7. Lobe, C.G. 1997. Expression of the helix-loop-helix factor, HES3, during embryo development suggests a role in early midbrain-hindbrain patterning. *Mech. Dev.* 62: 227-237.
8. Bae, S., Bessho, Y., Hojo, M. and Kageyama, R. 2000. The bHLH gene HES6, an inhibitor of HES1, promotes neuronal differentiation. *Development* 127: 2933-2943.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: HES1 (human) mapping to 3q29.

PRODUCT

HES1 (h): 293T Lysate represents a lysate of human HES1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

HES1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive HES1 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

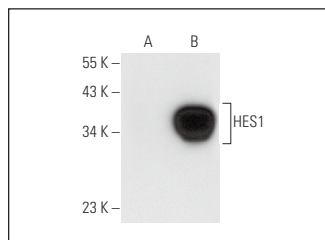
HES1 (A-12): sc-166378 is recommended as a positive control antibody for Western Blot analysis of enhanced human HES1 expression in HES1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

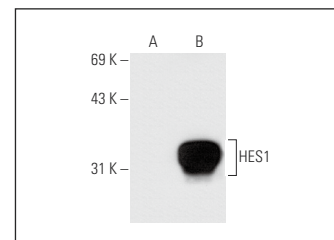
To ensure optimal results, the following support reagents are recommended:

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.

DATA



HES1 (A-12): sc-166378. Western blot analysis of HES1 expression in non-transfected: sc-117752 (A) and human HES1 transfected: sc-113854 (B) 293T whole cell lysates.



HES1 (F-10): sc-165996. Western blot analysis of HES1 expression in non-transfected: sc-117752 (A) and human HES1 transfected: sc-113854 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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