

# HES6 (H-180): sc-25396

## BACKGROUND

The *Drosophila* hairy 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 homologs of *Drosophila* hairy 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). HES2 binds to both N and E box sites, while HES6 does not bind DNA. Rather, HES6 inhibits HES1 activity, thereby promoting transcription. HES1 and HES2 are expressed in a variety of adult and embryonic tissues. HES3 is expressed exclusively in cerebellar Purkinje cells and HES5 is found solely in the nervous system. HES6 is produced in brain as well as in the limb buds of developing embryos.

## REFERENCES

1. Sasai, Y., et al. 1992. Two mammalian helix-loop-helix factors structurally related to *Drosophila* hairy and Enhancer of split. *Genes Dev.* 6: 2620-2634.
2. Akazawa, C., et al. 1992. Molecular characterization of a rat negative regulator with a basic helix-loop-helix structure predominantly expressed in the developing nervous system. *J. Biol. Chem.* 267: 21879-21885.
3. Ishibashi, M., et al. 1993. Molecular characterization of HES2, a mammalian helix-loop-helix factor structurally related to *Drosophila* hairy and Enhancer of split. *Eur. J. Biochem.* 215: 645-652.
4. Takebayashi, K., et al. 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., et al. 1996. The WRPW motif of the hairy-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.

## CHROMOSOMAL LOCATION

Genetic locus: HES6 (human) mapping to 2q37.3; Hes6 (mouse) mapping to 1 D.

## SOURCE

HES6 (H-180) is a rabbit polyclonal antibody raised against amino acids 45-224 of HES6 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-25396 X, 200 µg/0.1 ml.

## APPLICATIONS

HES6 (H-180) is recommended for detection of HES6 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HES6 (H-180) is also recommended for detection of HES6 in additional species, including bovine and porcine.

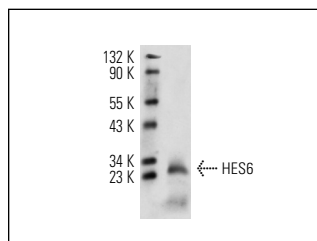
Suitable for use as control antibody for HES6 siRNA (h): sc-37109, HES6 siRNA (m): sc-37110, HES6 shRNA Plasmid (h): sc-37109-SH, HES6 shRNA Plasmid (m): sc-37110-SH, HES6 shRNA (h) Lentiviral Particles: sc-37109-V and HES6 shRNA (m) Lentiviral Particles: sc-37110-V.

HES6 (H-180) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

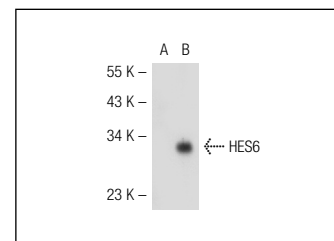
Molecular Weight: 28 kDa.

Positive Controls: mouse embryo extract: sc-364239 or HES6 (m): 293T Lysate: sc-120761.

## DATA



HES6 (H-180): sc-25396. Western blot analysis of HES6 expression in mouse embryo tissue extract.



HES6 (H-180): sc-25396. Western blot analysis of HES6 expression in non-transfected: sc-117752 (A) and mouse HES6 transfected: sc-120761 (B) 293T whole cell lysates.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **HES6 (F-5): sc-133196**, our highly recommended monoclonal alternative to HES6 (H-180).