

HES5 (M-16): sc-13860

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 (CAC-NAG) 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. 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.
2. 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.
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.

CHROMOSOMAL LOCATION

Genetic locus: HES5 (human) mapping to 1p36.32; Hes5 (mouse) mapping to 4 E2.

SOURCE

HES5 (M-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HES5 of mouse 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-13860 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-13860 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

HES5 (M-16) is recommended for detection of HES5 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).

HES5 (M-16) is also recommended for detection of HES5 in additional species, including canine and bovine.

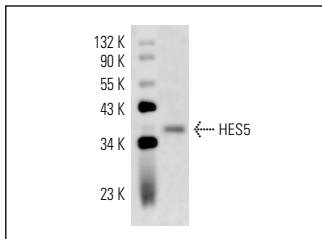
Suitable for use as control antibody for HES5 siRNA (h): sc-72197, HES5 siRNA (m): sc-37945, HES5 shRNA Plasmid (h): sc-72197-SH, HES5 shRNA Plasmid (m): sc-37945-SH, HES5 shRNA (h) Lentiviral Particles: sc-72197-V and HES5 shRNA (m) Lentiviral Particles: sc-37945-V.

HES5 (M-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

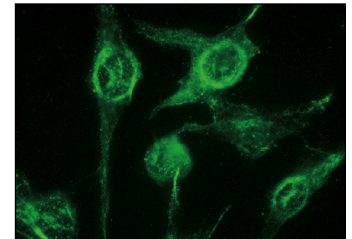
Molecular Weight of HES5: 41 kDa.

Positive Controls: SK-N-MC nuclear extract: sc-2154, Sol8 cell lysate: sc-2249 or mouse embryo extract: sc-364239t.

DATA



HES5 (M-16): sc-13860. Western blot analysis of HES5 expression in SK-N-MC nuclear extract.



HES5 (M-16): sc-13860. Immunofluorescence staining of methanol-fixed Sol8 cells showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

1. Xin, H., et al. 2006. Bone marrow stromal cells induce BMP2/4 production in oxygen-glucose-deprived astrocytes, which promotes an astrocytic phenotype in adult subventricular progenitor cells. *J. Neurosci. Res.* 83: 1485-1493.

STORAGE

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


 MONOS
Satisfaction
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Try **HES5 (3B6): sc-293445**, our highly recommended monoclonal alternative to HES5 (M-16).