

HES5 (M-104): sc-25395

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.

CHROMOSOMAL LOCATION

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

SOURCE

HES5 (M-104) is a rabbit polyclonal antibody raised against amino acids 64-167 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-25395 X, 200 µg/0.1 ml.

APPLICATIONS

HES5 (M-104) 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).

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-104) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

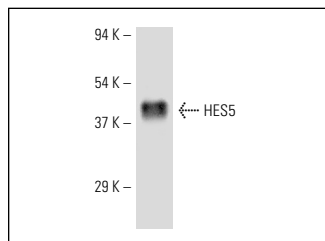
Molecular Weight of HES5: 41 kDa.

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

STORAGE

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

DATA



HES5 (M-104): sc-25395. Western blot analysis of HES5 expression in mouse embryo tissue extract.

SELECT PRODUCT CITATIONS

- Huang, G., et al. 2009. Effects of soybean isoflavone on the notch signal pathway of the brain in rats with cerebral ischemia. *J. Nutr. Sci. Vitaminol.* 55: 326-331.
- Liu, H., et al. 2010. Folic acid supplementation stimulates notch signaling and cell proliferation in embryonic neural stem cells. *J. Clin. Biochem. Nutr.* 47: 174-180.
- Yu, H.C., et al. 2011. Canonical notch pathway protects hepatocytes from ischemia/reperfusion injury in mice by repressing reactive oxygen species production through JAK2/STAT3 signaling. *Hepatology* 54: 979-988.
- Muranishi, Y., et al. 2011. An essential role for RAX homeoprotein and NOTCH-HES signaling in Otx2 expression in embryonic retinal photoreceptor cell fate determination. *J. Neurosci.* 31: 16792-16807.
- Tanveer, R., et al. 2012. The endocannabinoid, anandamide, augments Notch-1 signaling in cultured cortical neurons exposed to amyloid-β and in the cortex of aged rats. *J. Biol. Chem.* 287: 34709-34721.

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.



Try **HES5 (3B6): sc-293445**, our highly recommended monoclonal alternative to HES5 (M-104).