SANTA CRUZ BIOTECHNOLOGY, INC.

HES6 (F-5): sc-133196

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 homologues 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 homologue 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.

REFERENCE

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.

CHROMOSOMAL LOCATION

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

SOURCE

HES6 (F-5) is a mouse monoclonal antibody raised against amino acids 45-224 of HES6 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain 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-133196 X, 200 µg/0.1 ml.

HES6 (F-5) is available conjugated to agarose (sc-133196 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-133196 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133196 PE), fluorescein (sc-133196 FITC), Alexa Fluor® 488 (sc-133196 AF488), Alexa Fluor® 546 (sc-133196 AF546), Alexa Fluor® 594 (sc-133196 AF594) or Alexa Fluor® 647 (sc-133196 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133196 AF680) or Alexa Fluor® 790 (sc-133196 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

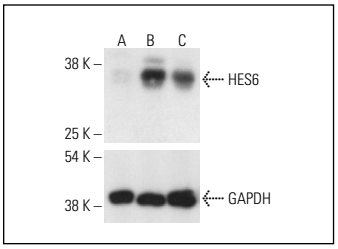
HES6 (F-5) is recommended for detection of HES6 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 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.

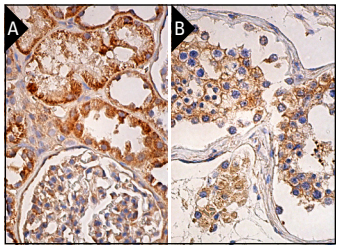
HES6 (F-5) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HES6: 28 kDa.

DATA



HES6 (F-5): sc-133196. Western blot analysis of HES6 expression in untreated (**A**) and chemically-treated (**B**, **C**) HeLa whole cell lysates. GAPDH (0411): sc-47724 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



HES6 (F-5): sc-133196. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells (**B**).

SELECT PRODUCT CITATIONS

1. Thalacker-Mercer, A., et al. 2013. Cluster analysis reveals differential transcript profiles associated with resistance training-induced human skeletal muscle hypertrophy. Physiol. Genomics 45: 499-507.
2. Zhang, P., et al. 2019. Dissecting the single-cell transcriptome network underlying gastric premalignant lesions and early gastric cancer. Cell Rep. 27: 1934-1947.
3. Yan, Y., et al. 2020. CCMAlnc promotes the malignance of colorectal cancer by modulating the interaction between miR-5001-5p and its target mRNA. Front. Cell Dev. Biol. 8: 566932.
4. Roy, A., et al. 2021. The IRE1/XBP1 signaling axis promotes skeletal muscle regeneration through a cell non-autonomous mechanism. Elife 10: e73215.

STORAGE

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