

HES1 (A-12): sc-166378

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). HES1 and HES2 are expressed in a variety of adult and embryonic tissues.

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.

CHROMOSOMAL LOCATION

Genetic locus: HES1 (human) mapping to 3q29; Hes1 (mouse) mapping to 16 B2.

SOURCE

HES1 (A-12) is a mouse monoclonal antibody raised against amino acids 163-194 of HES1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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-166378 X, 200 µg/0.1 ml.

HES1 (A-12) is available conjugated to agarose (sc-166378 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166378 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166378 PE), fluorescein (sc-166378 FITC), Alexa Fluor[®] 488 (sc-166378 AF488), Alexa Fluor[®] 546 (sc-166378 AF546), Alexa Fluor[®] 594 (sc-166378 AF594) or Alexa Fluor[®] 647 (sc-166378 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-166378 AF680) or Alexa Fluor[®] 790 (sc-166378 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

HES1 (A-12) is recommended for detection of HES1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

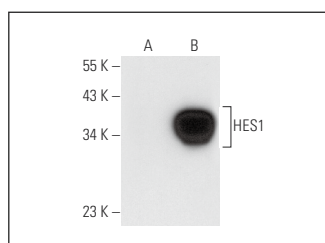
Suitable for use as control antibody for HES1 siRNA (h): sc-37938, HES1 siRNA (m): sc-37939, HES1 siRNA (r): sc-270146, HES1 shRNA Plasmid (h): sc-37938-SH, HES1 shRNA Plasmid (m): sc-37939-SH, HES1 shRNA Plasmid (r): sc-270146-SH, HES1 shRNA (h) Lentiviral Particles: sc-37938-V, HES1 shRNA (m) Lentiviral Particles: sc-37939-V and HES1 shRNA (r) Lentiviral Particles: sc-270146-V.

HES1 (A-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

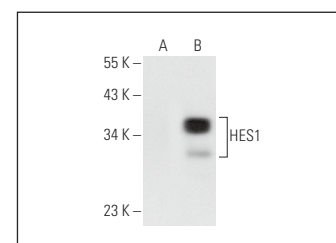
Molecular Weight of HES1: 35 kDa.

Positive Controls: THP-1 cell lysate: sc-2238, HES1 (h): 293T Lysate: sc-113854 or HES1 (m2): 293T Lysate: sc-120760.

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 (A-12): sc-166378. Western blot analysis of HES1 expression in non-transfected: sc-117752 (A) and mouse HES1 transfected: sc-120760 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Subhan, F., et al. 2013. Epidermal growth factor-like domain 8 inhibits the survival and proliferation of mouse thymocytes. *Int. J. Mol. Med.* 32: 952-958.
2. Pei, L., et al. 2018. KRAB zinc-finger protein 382 regulates epithelial-mesenchymal transition and functions as a tumor suppressor, but is silenced by CpG methylation in gastric cancer. *Int. J. Oncol.* 53: 961-972.
3. Ling, X., et al. 2021. Lidocaine inhibits myoblast cell migration and myogenic differentiation through activation of the Notch pathway. *Drug Des. Devel. Ther.* 15: 927-936.
4. Gong, M., et al. 2022. A dopamine-methacrylated hyaluronic acid hydrogel as an effective carrier for stem cells in skin regeneration therapy. *Cell Death Dis.* 13: 738.

RESEARCH USE

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