

HES2 (H-8): sc-514711

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. 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.

CHROMOSOMAL LOCATION

Genetic locus: HES2 (human) mapping to 1p36.31; Hes2 (mouse) mapping to 4 E2.

SOURCE

HES2 (H-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-17 at the N-terminus of HES2 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-514711 X, 200 µg/0.1 ml.

HES2 (H-8) is available conjugated to agarose (sc-514711 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514711 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514711 PE), fluorescein (sc-514711 FITC), Alexa Fluor® 488 (sc-514711 AF488), Alexa Fluor® 546 (sc-514711 AF546), Alexa Fluor® 594 (sc-514711 AF594) or Alexa Fluor® 647 (sc-514711 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514711 AF680) or Alexa Fluor® 790 (sc-514711 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514711 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

HES2 (H-8) is recommended for detection of HES2 isoforms 1 and 2 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 HES2 siRNA (h): sc-37940, HES2 siRNA (m): sc-37941, HES2 shRNA Plasmid (h): sc-37940-SH, HES2 shRNA Plasmid (m): sc-37941-SH, HES2 shRNA (h) Lentiviral Particles: sc-37940-V and HES2 shRNA (m) Lentiviral Particles: sc-37941-V.

HES2 (H-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HES2: 14 kDa.

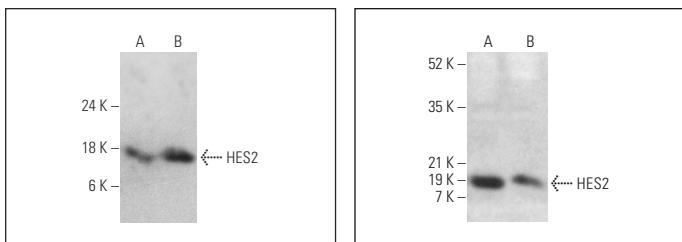
Positive Controls: BYDP whole cell lysate: sc-364368, KNRK nuclear extract: sc-2141 or K-562 nuclear extract: sc-2130.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgG_κ BP-HRP: sc-516102 or m-IgG_κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.
- 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 3) Immunofluorescence: use m-IgG_κ BP-FITC: sc-516140 or m-IgG_κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



HES2 (H-8): sc-514711. Western blot analysis of HES2 expression in KNRK (**A**) and K-562 (**B**) nuclear extracts.

HES2 (H-8): sc-514711. Western blot analysis of HES2 expression in BYDP (**A**) and NAMALWA (**B**) 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.