SANTA CRUZ BIOTECHNOLOGY, INC.

HESX1 (P-17): sc-15125

BACKGROUND

The homeobox protein, HESX1, which is also known as Rathke's pouch homeobox, HANF, homeodomain transcription factor, and anterior-restricted homeobox protein is a transcription factor that belongs to the homeodomain family of DNA binding proteins. HESX1 is initially expressed in embryonic stem cells and the primitive forebrain, and is essential for normal development of the eyes and other anterior CNS structures, such as the hypothalamus, the pituitary gland and the olfactory bulbs. The homeobox gene Hesx1 is expressed in the anterior visceral endoderm (AVE), anterior axial mesendoderm (AME), and anterior neural ectoderm (ANE) during early embryogenesis. Mutations in the Hesx1 gene are associated with disorders that are comparable with septo-optic dysplasia (SOD). These disorders are characterized by hypoplasia of the optic nerve, various types of forebrain defects and pituitary hormone deficiencies, including hypothyroidism. Hesx1 also acts as a transcriptional repressor of reporter gene constructs in tissue culture assays.

REFERENCES

1. Dattani, M., et al. 1998. Mutations in the homeobox gene HESX1/Hesx1 associated with septo-optic dysplasia in human and mouse. Nat. Genet. 19: 125-133.
2. Dattani, M., et al. 1999. HESX1: A novel gene implicated in a familial form of septo-optic dysplasia. Acta. Paediatr. Suppl. 88: 49-54.
3. Dattani, M. et al. 2000. The molecular basis for developmental disorders of the pituitary glad in man. Clin. Genet. 57: 337-346.
4. Dattani, M., et al. 2000. Molecular genetics of septo-optic dysplasia. Horm. Res. 53: 26-33.
5. Martinez-Barbera, J., et al. 2000. The homeobox gene Hesx1 is required in the anterior neural ectoderm for normal forebrain formation. Dev. Biol. 223: 422-430.
6. Pfafle, R., et al. 2000. Idiopathic growth hormone deficiency: a vanishing diagnosis? Horm. Res. 53: 1-8.
7. Thomas, P., et al. 2001. Heterozygous HESX1 mutations associated with isolated cogenital pituitary hypoplasia and septo-optic dysplasia. Hum. Mol. Genet. 10: 39-45.

SOURCE

HESX1 (P-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of HESX1 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.

Blocking peptide available for competition studies, sc-15125 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-15125 X, 200 µg/0.1 ml.

APPLICATIONS

HESX1 (P-17) is recommended for detection of HESX1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 HESX1 siRNA (m): sc-38670.

HESX1 (P-17) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.