SANTA CRUZ BIOTECHNOLOGY, INC.

SHOX (E-14): sc-21896

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Homeodomain proteins (HP) are transcriptional regulators that coordinate the expression of genes involved in development, differentiation and cellular transformation. HPs are characterized by a conserved domain of 60 amino acid residues that recognize and bind a site in the regulatory region of the target gene. SHOX, a member of the bicoid subfamily of the paired homeobox family, controls fundamental aspects of growth and development and undergoes splicing resulting in two isoforms, SHOXA and SHOXB. SHOXA is expressed in skeletal muscle, placental, pancreas, heart and bone marrow fibroblast and, to a lesser extent, in kidney and lung. SHOXB is highly expressed in osteogenic cells, but not expressed in brain, kidney, liver or lung. Defects in the gene SHOXX cause Leri-Weill dyschondrosteosis (LWD) and Langer mesomelic dysplasia (LMD).

REFERENCES

1. Semina, E.V., et al. 1998. A new human homeobox gene Ogl2x is a member of the most conserved homeobox gene family and is expressed during heart development in mouse. Hum. Mol. Genet. 7: 415-422.
2. Blaschke, R.J., et al. 1998. SHOT, a SHOX-related homeobox gene, is implicated in craniofacial, brain, heart, and limb development. Proc. Natl. Acad. Sci. USA 95: 2406-2411.
3. Chariot, A., et al. 1999. The homeodomain-containing proteins: an update on their interacting partners. Biochem. Pharmacol. 58: 1851-1857.
4. Blaschke, R.J., et al. 2001. SHOX in short stature syndromes. Horm. Res. 55: 21-23.
5. Blaschke, R.J., et al. 2003. Transcriptional and translational regulation of the Leri-Weill and Turner syndrome homeobox gene SHOX. J. Biol. Chem. 278: 47820-47826.
6. Marchini, A., et al. 2004. The short stature homeodomain protein SHOX induces cellular growth arrest and apoptosis and is expressed in human growth plate chondrocytes. J. Biol. Chem. 279: 37103-37114.

CHROMOSOMAL LOCATION

Genetic locus: SHOX (human) mapping to Xp22.33/Yp11.32.

SOURCE

SHOX (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SHOX of human 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-21896 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

SHOX (E-14) is recommended for detection of SHOXA and SHOXB of human 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).

SHOX (N-15) is also recommended for detection of SHOXA and SHOXB in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SHOX siRNA (h): sc-91583, SHOX shRNA Plasmid (h): sc-91583-SH and SHOX shRNA (h) Lentiviral Particles: sc-91583-V.

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.

PROTOCOLS

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