SANTA CRUZ BIOTECHNOLOGY, INC.

HoxB3 (S-20): sc-17167

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Hox genes play a fundamental role in the development of the vertebrate central nervous system, heart, axial skeleton, limbs, gut, urogenital tract and external genitalia. There are multiple transcripts of the HoxB3 gene, and the anterior boundaries of its expression vary at different stages of development. HoxB3 plays a role in the proliferation and differentiation of both early myeloid and lymphoid developmental pathways. HoxB3 also has overlapping function in mediating the migration of pharyngeal organ primordia and is expressed in very restricted domains in the future hindbrain. HoxB6 controls the generation, proliferation and survival of erythroid progenitor cells. The HoxB6 protein is expressed in the suprabasal layer of the early developing epidermis and throughout the upper layers of late fetal and adult human skin. HoxB6 is cytoplasmically expressed throughout fetal epidermal development, but displays nuclear expression in normal adult skin. HoxB6 protein also has nuclear expression in hyperproliferative skin conditions, but appears to be localized in the cytoplasm in basal and squamous cell carcinomas. HoxB6 genes are also expressed in normal adult lung.

REFERENCES

1. Godsave, S., et al. 1994. Expression patterns of HoxB genes in the *Xenopus* embryo suggest roles in anteroposterior specification of the hindbrain and in dorsoventral patterning of the mesoderm. Dev. Biol. 166: 465-476.
2. Sauvageau, G., et al. 1997. Overexpression of HoxB3 in hematopoietic cells causes defective lymphoid development and progressive myeloproliferation. Immunity 6: 13-22.
3. Manley, N.R., et al. 1998. Hox group 3 paralogs regulate the development and migration of the thymus, thyroid, and parathyroid glands. Dev. Biol. 195: 1-15.
4. Kappen, C. 2000. Disruption of the homeobox gene HoxB6 in mice results in increased numbers of early erythrocyte progenitors. Am. J. Hematol. 65: 111-118.
5. Komuves, L.G., et al. 2000. Changes in HoxB6 homeodomain protein structure and localization during human epidermal development and differentiation. Dev. Dyn. 218: 636-647.
6. Goodman, F.R., et al. 2001. Human HOX gene mutations. Clin. Genet. 59: 1-11.
7. Kwan, C.T., et al. 2001. Regulatory analysis of the mouse HoxB3 gene: multiple elements work in concert to direct temporal and spatial patterns of expression. Dev. Biol. 232: 176-190.
8. Golpon, H.A., et al. 2001. HOX genes in human lung: altered expression in primary pulmonary hypertension and emphysema. Am. J. Pathol. 158: 955-966.

CHROMOSOMAL LOCATION

Genetic locus: HOXB3 (human) mapping to 17q21.32; Hoxb3 (mouse) mapping to 11 D.

RESEARCH USE

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

SOURCE

HoxB3 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HoxB3 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-17167 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HoxB3 (S-20) is recommended for detection of HoxB3 of mouse, rat and 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).

HoxB3 (S-20) is also recommended for detection of HoxB3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for HoxB3 siRNA (h): sc-38690, HoxB3 siRNA (m): sc-38691, HoxB3 shRNA Plasmid (h): sc-38690-SH, HoxB3 shRNA Plasmid (m): sc-38691-SH, HoxB3 shRNA (h) Lentiviral Particles: sc-38690-V and HoxB3 shRNA (m) Lentiviral Particles: sc-38691-V.

HoxB3 (S-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HoxB3: 44 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

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.