SANTA CRUZ BIOTECHNOLOGY, INC.

HMX2 (P-20): sc-243037

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The Power to Question

BACKGROUND

The homeobox DNA-binding domain is a 60 amino acid motif that is conserved among many species and functions to bind DNA via a helix-turn-helix structure, thereby playing a role in transcriptional regulation and the control of gene expression. HMX2 (H6 family homeobox 2), also known as H6L or Nkx5-2, is a 273 amino acid nuclear protein that belongs to the HMX homeobox family and contains one homeobox DNA-binding domain. HMX2 functions as a transcription factor that assists in specification of neuronal cell types and is essential for proper development of hypothalamus and inner ear. Hemizygous deletions of the gene encoding HMX2 are thought to lead to vestibular dysfunction, inner ear malformations and congenital sensorineural hearing loss.

REFERENCES

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2. Stadler, H.S., et al. 1995. Phylogenetic conservation and physical mapping of members of the H6 homeobox gene family. Mamm. Genome 6: 383-388.
3. Wang, W., et al. 2000. Hmx: an evolutionary conserved homeobox gene family expressed in the developing nervous system in mice and *Drosophila*. Mech. Dev. 99: 123-137.
4. Wang, W., et al. 2001. Hmx2 homeobox gene control of murine vestibular morphogenesis. Development 128: 5017-5029.
5. Wang, W., et al. 2004. Hmx2 and Hmx3 homeobox genes direct development of the murine inner ear and hypothalamus and can be functionally replaced by *Drosophila* Hmx. Dev. Cell 7: 439-453.
6. Miller, N.D., et al. 2009. Molecular (SNP) analyses of overlapping hemizygous deletions of 10q25.3 to 10qter in four patients: evidence for HMX2 and HMX3 as candidate genes in hearing and vestibular function. Am. J. Med. Genet. A 149A: 669-680.
7. Online Mendelian Inheritance in Man, OMIM™. 2011. Johns Hopkins University, Baltimore, MD. MIM Number: 600647. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: HMX2 (human) mapping to 10q26.13.

SOURCE

HMX2 (P-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HMX2 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-243037 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-243037 X, 200 µg/0.1 ml.

APPLICATIONS

HMX2 (P-20) is recommended for detection of HMX2 of human 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); non cross-reactive with HMX1 or HMX3.

HMX2 (P-20) is also recommended for detection of HMX2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for HMX2 siRNA (h): sc-90463, HMX2 shRNA Plasmid (h): sc-90463-SH and HMX2 shRNA (h) Lentiviral Particles: sc-90463-V.

HMX2 (P-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HMX2: 30 kDa.

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.