

TBX5 (N-20): sc-17864

BACKGROUND

Members of the T-box (Tbx) gene family share a conserved domain that codes for the T-box, a sequence involved in DNA-binding and protein dimerization. The Tbx gene family is largely conserved throughout metazoan evolution, and is implicated in a variety of developmental processes ranging from the formation of germ layers to the organizational patterning of the central nervous system. Embryonic expression of TBX5 has been found in the human retina. TBX5 as well as TBX20 are required for and have non-redundant functions in early heart development. The genes encoding human TBX5 and TBX1 are mutated in cardiac congenital anomaly syndromes. Specifically, mutations in the TBX5 gene have been identified in patients with Holt-Oram syndrome, an autosomal dominant heart-hand syndrome characterized by congenital heart disease and upper limb deformity.

REFERENCES

1. Agulnik, S.I., et al. 1998. Cloning, mapping, and expression analysis of TBX15, a new member of the T-Box gene family. *Genomics* 51: 68-75.
2. He, M.I., et al. 1999. Transcription repression by Xenopus ET and its human ortholog TBX3, a gene involved in ulnar-mammary syndrome. *Proc. Natl. Acad. Sci. USA* 96: 10212-10217.
3. Begemann, G. and Ingham, P.W. 2000. Developmental regulation of Tbx5 in zebrafish embryogenesis. *Mech. Dev.* 90: 299-304.
4. Ahn, D.G., et al. 2000. tbx20, a new vertebrate T-box gene expressed in the cranial motor neurons and developing cardiovascular structures in zebrafish. *Mech. Dev.* 95: 253-258.
5. Minguillon, C., et al. 2003. The comparative genomics of T-box genes. *Brief. Funct. Genomic. Proteomic.* 2: 224-233.
6. Murakami, M., et al. 2005. A WW domain protein TAZ is a critical coactivator for TBX5, a transcription factor implicated in Holt-Oram syndrome. *Proc. Natl. Acad. Sci. USA* 102: 18034-18039.
7. McDermott, D.A., et al. 2005. TBX5 genetic testing validates strict clinical criteria for Holt-Oram syndrome. *Pediatr. Res.* 58: 981-986.
8. Gruenauer-Kloevekorn, C., et al. 2005. Molecular genetic and ocular findings in patients with holt-oram syndrome. *Ophthalmic. Genet.* 26: 1-8.
9. Brown, D.D., et al. 2005. Tbx5 and Tbx20 act synergistically to control vertebrate heart morphogenesis. *Development* 132: 553-563.

CHROMOSOMAL LOCATION

Genetic locus: TBX5 (human) mapping to 12q24.21; Tbx5 (mouse) mapping to 5 F.

SOURCE

TBX5 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TBX5 of human origin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgG 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-17864 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-17864 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TBX5 (N-20) is recommended for detection of TBX5 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).

TBX5 (N-20) is also recommended for detection of TBX5 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for TBX5 siRNA (h): sc-37020, TBX5 siRNA (m): sc-37021, TBX5 shRNA Plasmid (h): sc-37020-SH, TBX5 shRNA Plasmid (m): sc-37021-SH, TBX5 shRNA (h) Lentiviral Particles: sc-37020-V and TBX5 shRNA (m) Lentiviral Particles: sc-37021-V.

TBX5 (N-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of TBX5: 57 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

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.

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.


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Try **TBX5 (A-6): sc-515536** or **TBX5 (A-4): sc-376952**, our highly recommended monoclonal alternatives to TBX5 (N-20).