

TBX5 (A-4): sc-376952

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., et al. 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.

CHROMOSOMAL LOCATION

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

SOURCE

TBX5 (A-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 489-518 at the C-terminus of TBX5 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376952 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

TBX5 (A-4) is recommended for detection of TBX5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 (A-4) is also recommended for detection of TBX5 in additional species, including equine.

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.

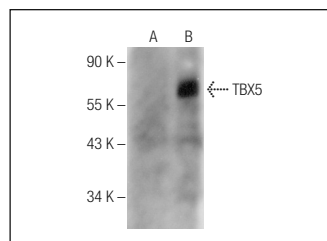
Molecular Weight of TBX5: 57 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or TBX5 (h): 293T Lysate: sc-114054.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



TBX5 (A-4): sc-376952. Western blot analysis of TBX5 expression in non-transfected: sc-117752 (A) and human TBX5 transfected: sc-114054 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Tian, J., et al. 2018. Optimization and enrichment of induced cardiomyocytes derived from mouse fibroblasts by reprogramming with cardiac transcription factors. *Mol. Med. Rep.* 17: 3912-3920.

RESEARCH USE

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