SANTA CRUZ BIOTECHNOLOGY, INC.

TBX3 (A-6): sc-166623

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The T-box (TBX) motif is present in a family of genes whose structural features and expression patterns support their involvement in developmental gene regulation. The TBX gene family are largely conserved throughout metazoan evolution, and these genes code for putative transcription factors that share a uniquely defining DNA-binding domain. TBX genes are a family of developmental regulators with more than 20 members recently identified in invertebrates and vertebrates. Mutations in TBX genes are associated with the onset of several human diseases. Our understanding of functional mechanisms of TBX products has come mainly from the prototypical T/brachyury, which is a transcription activator. The TBX genes constitute a family of transcriptional regulatory genes that are implicated in a variety of developmental processes ranging from the formation of germ layers to the organizational patterning of the central nervous system.

CHROMOSOMAL LOCATION

Genetic locus: TBX3 (human) mapping to 12q24.21; Tbx3 (mouse) mapping to 5 F.

SOURCE

TBX3 (A-6) is a mouse monoclonal antibody raised against amino acids 320-411 mapping within an internal region of TBX3 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain 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-166623 X, 200 µg/0.1 ml.

STORAGE

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

APPLICATIONS

TBX3 (A-6) is recommended for detection of TBX3 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).

Suitable for use as control antibody for TBX3 siRNA (h): sc-37018, TBX3 siRNA (m): sc-37019, TBX3 shRNA Plasmid (h): sc-37018-SH, TBX3 shRNA Plasmid (m): sc-37019-SH, TBX3 shRNA (h) Lentiviral Particles: sc-37018-V and TBX3 shRNA (m) Lentiviral Particles: sc-37019-V.

TBX3 (A-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

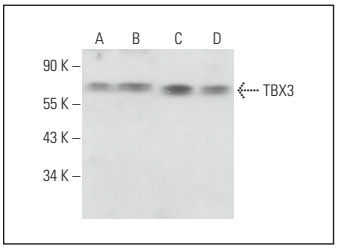
Molecular Weight of TBX3: 80 kDa.

Positive Controls: JAR cell lysate: sc-2276, U-698-M whole cell lysate: sc-364799 or F9 cell lysate: sc-2245.

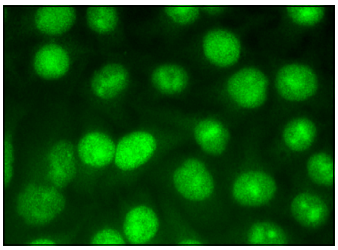
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



TBX3 (A-6): sc-166623. Western blot analysis of TBX3 expression in JAR (**A**), U-698-M (**B**), F9 (**C**) and PC-12 (**D**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



TBX3 (A-6): sc-166623. Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Yu, Z., et al. 2020. Transcription box-3 protects human umbilical vein endothelial cells in a high-glucose environment through sirtuin 1/Akt signaling. Mol. Med. Rep. 22: 1145-1154.
2. Wang, C., et al. 2021. Alterations of DNA methylation were associated with the rapid growth of cortisol-producing adrenocortical adenoma during pregnancy. Clin. Epigenetics 13: 213.
3. Yazawa, T., et al. 2023. Expression of Chrna9 is regulated by Tbx3 in undifferentiated pluripotent stem cells. Sci. Rep. 13: 1611.
4. Ye, C., et al. 2024. Canonical Wnt signaling directs the generation of functional human PSC-derived atrioventricular canal cardiomyocytes in bioprinted cardiac tissues. Cell Stem Cell 31: 398-409.e5.

RESEARCH USE

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

PROTOCOLS

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