SANTA CRUZ BIOTECHNOLOGY, INC.

TBX2 (D-3): sc-514291

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.

REFERENCES

1. Law, D.J., et al. 1995. Identification, characterization, and localization to chromosome 17q21-22 of the human TBX2 homolog, member of a conserved developmental gene family. Mamm. Genome 6: 793-797.
2. 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.

CHROMOSOMAL LOCATION

Genetic locus: TBX2 (human) mapping to 17q23.2; Tbx2 (mouse) mapping to 11 C.

SOURCE

TBX2 (D-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 681-702 at the C-terminus of TBX2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} 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-514291 X, 200 µg/0.1 ml.

TBX2 (D-3) is available conjugated to agarose (sc-514291 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514291 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514291 PE), fluorescein (sc-514291 FITC), Alexa Fluor® 488 (sc-514291 AF488), Alexa Fluor® 546 (sc-514291 AF546), Alexa Fluor® 594 (sc-514291 AF594) or Alexa Fluor® 647 (sc-514291 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514291 AF680) or Alexa Fluor® 790 (sc-514291 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514291 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

TBX2 (D-3) is recommended for detection of TBX2 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).

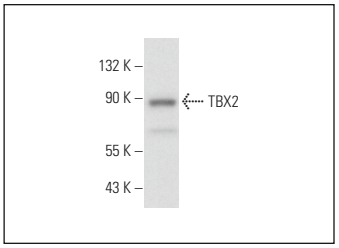
Suitable for use as control antibody for TBX2 siRNA (m): sc-38470, TBX2 siRNA (h): sc-38469, TBX2 shRNA Plasmid (m): sc-38470-SH, TBX2 shRNA Plasmid (h): sc-38469-SH, TBX2 shRNA (m) Lentiviral Particles: sc-38470-V and TBX2 shRNA (h) Lentiviral Particles: sc-38469-V.

TBX2 (D-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

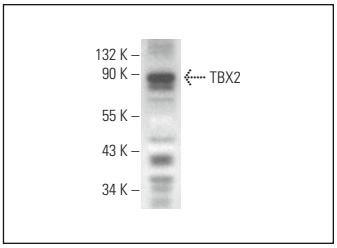
Molecular Weight of TBX2: 74 kDa.

Positive Controls: MCF7 nuclear extract: sc-2149 or Neuro-2A whole cell lysate: sc-364185.

DATA



TBX2 (D-3): sc-514291. Western blot analysis of TBX2 expression in Neuro-2A whole cell lysate.



TBX2 (D-3): sc-514291. Western blot analysis of TBX2 expression in MCF7 nuclear extract.

SELECT PRODUCT CITATIONS

1. Decaesteker, B., et al. 2018. TBX2 is a neuroblastoma core regulatory circuitry component enhancing MYCN/FOXM1 reactivation of DREAM targets. Nat. Commun. 9: 4866.
2. Karolak, J.A., et al. 2021. Potential interactions between the TBX4-FGF10 and SHH-FOXF1 signaling during human lung development revealed using ChIP-seq. Respir. Res. 22: 26.
3. Gao, F., et al. 2022. Decoding the IGF1 signaling gene regulatory network behind alveologenesis from a mouse model of bronchopulmonary dysplasia. Elife 11: e77522.
4. Modi, A., et al. 2023. Integrative genomic analyses identify LncRNA regulatory networks across pediatric leukemias and solid tumors. Cancer Res. 83: 3462-3477.
5. Dutta, S., et al. 2025. A TBX2-driven signaling switch from androgen receptor to glucocorticoid receptor confers therapeutic resistance in prostate cancer. Oncogene 44: 877-892.

RESEARCH USE

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