SANTA CRUZ BIOTECHNOLOGY, INC.

TBX4 (G-4): sc-515196

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: TBX4 (human) mapping to 17q23.2.

SOURCE

TBX4 (G-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 20-45 near the N-terminus of TBX4 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-515196 X, 200 µg/0.1 ml.

TBX4 (G-4) is available conjugated to agarose (sc-515196 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515196 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515196 PE), fluorescein (sc-515196 FITC), Alexa Fluor® 488 (sc-515196 AF488), Alexa Fluor® 546 (sc-515196 AF546), Alexa Fluor® 594 (sc-515196 AF594) or Alexa Fluor® 647 (sc-515196 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515196 AF680) or Alexa Fluor® 790 (sc-515196 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515196 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

TBX4 (G-4) is recommended for detection of TBX4 of 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 TBX4 siRNA (h): sc-38471, TBX4 shRNA Plasmid (h): sc-38471-SH and TBX4 shRNA (h) Lentiviral Particles: sc-38471-V.

TBX4 (G-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

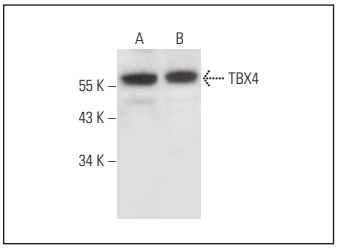
Molecular Weight of TBX4: 60 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or A549 cell lysate: sc-2413.

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



TBX4 (G-4): sc-515196. Western blot analysis of TBX4 expression in HeLa (**A**) and A549 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Li, M., et al. 2020. Identification and validation of novel DNA methylation markers for early diagnosis of lung adenocarcinoma. Mol. Oncol. 14: 2744-2758.
2. Cai, Q., et al. 2023. Whole-genome DNA methylation and DNA methylation-based biomarkers in lung squamous cell carcinoma. iScience 26: 107013.

RESEARCH USE

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