SANTA CRUZ BIOTECHNOLOGY, INC.

brachyury (D-10): sc-166962

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The T-box gene family consists of members that share a unique DNA binding domain. The best characterized T-box (Tbx) gene, brachyury or T, encodes a transcription factor that plays an important role in early vertebrate development. Tbx genes are a family of developmental regulators with more than 20 members recently identified among invertebrates and vertebrates. Mutations in Tbx genes have been found to cause several human diseases. The understanding of functional mechanisms of Tbx products has come mainly from the prototypical T/brachyury protein, which is a transcription activator. The T-domain is a highly conserved DNA-binding motif originally defined in brachyury and characteristic of the Tbx family of transcription factors. The murine brachyury (T) gene is required in posterior mesoderm formation and axial development. Mutant embryos lacking T gene function are deficient in notochord differentiation and posterior mesoderm formation, but develop anterior mesoderm.

CHROMOSOMAL LOCATION

Genetic locus: T (human) mapping to 6q27; T (mouse) mapping to 17 A1.

SOURCE

brachyury (D-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 360-393 near the C-terminus of brachyury 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. Alao available as TransCruz reagent for Gel Supershift and ChIP applications, sc-166962 X, 200 µg/0.1 ml.

brachyury (D-10) is available conjugated to HRP (sc-166962 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

Blocking peptide available for competition studies, sc-166962 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

brachyury (D-10) is recommended for detection of brachyury 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 brachyury siRNA (h): sc-29820, brachyury siRNA (m): sc-29821, brachyury shRNA Plasmid (h): sc-29820-SH, brachyury shRNA Plasmid (m): sc-29821-SH, brachyury shRNA (h) Lentiviral Particles: sc-29820-V and brachyury shRNA (m) Lentiviral Particles: sc-29821-V.

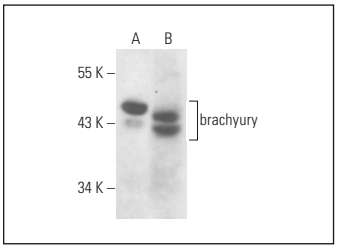
brachyury (D-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of brachyury: 49 kDa.

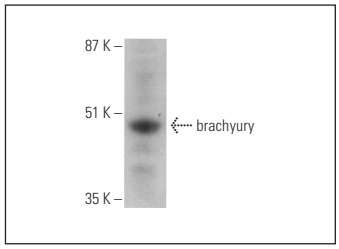
STORAGE

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

DATA



brachyury (D-10): sc-166962. Western blot analysis of brachyury expression in F9 (**A**) and P19 (**B**) whole cell lysates.



brachyury (D-10) HRP: sc-166962 HRP. Direct western blot analysis of brachyury expression in Raji whole cell lysate.

SELECT PRODUCT CITATIONS

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3. Yui, T., et al. 2015. Histochemical and immunohistochemical characterization of chordoma in ferrets. J. Vet. Med. Sci. 77: 467-473.
4. Tang, X., et al. 2016. Identifying molecular phenotype of nucleus pulposus cells in human intervertebral disc with aging and degeneration. J. Orthop. Res. 34: 1316-1326.
5. Wang, Y., et al. 2017. Generation of induced pluripotent stem cell line (ZZUi005-A) from a 21-year-old patient with a novel RAB39B gene mutation in X-linked juvenile parkinsonism. Stem Cell Res. 25: 132-135.
6. Beisaw, A., et al. 2018. Brachyury directs histone acetylation to target loci during mesoderm development. EMBO Rep. 19: 118-134.
7. D'Agati, G., et al. 2019. Active receptor tyrosine kinases, but not brachyury, are sufficient to trigger chordoma in zebrafish. Dis. Model. Mech. 12: dmm039545.
8. Gao, Y., et al. 2020. Generation of induced pluripotent stem cell line (ZZUi0016-A) from dermal fibroblasts of a normal human. Stem Cell Res. 43: 101717.
9. Begentas, O.C., et al. 2021. Generation and characterization of human induced pluripotent stem cell line METUi001-A from a 25-year-old male patient with relapsing-remitting multiple sclerosis. Stem Cell Res. 53: 102370.
10. Xu, Z., et al. 2022. Clinical and molecular features of sacrum chordoma in Chinese patients. Ann. Transl. Med. 10: 61.

RESEARCH USE

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