

# brachyury (A-4): sc-374321

## 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.

## REFERENCE

1. Kispert, A. and Herrmann, B.G. 1994. Immunohistochemical analysis of the brachyury protein in wild-type and mutant mouse embryos. *Dev. Biol.* 161: 179-193.
2. Conlon, F.L., et al. 1995. Effects of the TW1 mutation on notochord formation and mesodermal patterning. *Mech. Dev.* 49: 201-209.
3. Agulnik, S.I., et al. 1997. Three novel T-box genes in *Caenorhabditis elegans*. *Genome* 40: 458-464.

## CHROMOSOMAL LOCATION

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

## SOURCE

brachyury (A-4) is a mouse monoclonal antibody raised against amino acids 226-435 of brachyury of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> 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-374321 X, 200 µg/0.1 ml.

brachyury (A-4) is available conjugated to agarose (sc-374321 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374321 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374321 PE), fluorescein (sc-374321 FITC), Alexa Fluor® 488 (sc-374321 AF488), Alexa Fluor® 546 (sc-374321 AF546), Alexa Fluor® 594 (sc-374321 AF594) or Alexa Fluor® 647 (sc-374321 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374321 AF680) or Alexa Fluor® 790 (sc-374321 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

brachyury (A-4) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

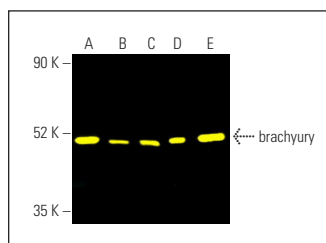
Suitable for use as control antibody for brachyury siRNA (h): sc-29820, brachyury siRNA (m): sc-29821, brachyury shRNA Plasmid (h): sc-29820-SH, brachyury shRNA Plasmid (m): sc-29821-SH, brachyury shRNA (h) Lentiviral Particles: sc-29820-V and brachyury shRNA (m) Lentiviral Particles: sc-29821-V.

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

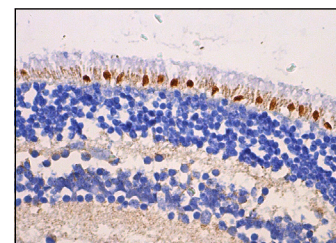
Molecular Weight of brachyury: 49 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or Raji whole cell lysate: sc-364236.

## DATA



brachyury (A-4) Alexa Fluor® 488: sc-374321 AF488. Direct fluorescent western blot analysis of brachyury expression in NCI-H292 (A), HeLa (B), Raji (C), Jurkat (D) and A-431 (E) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



brachyury (A-4): sc-374321. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fetal eye tissue showing nuclear staining of rod cells.

## SELECT PRODUCT CITATIONS

1. Trucco, M.M., et al. 2013. A novel chordoma xenograft allows *in vivo* drug testing and reveals the importance of NFκB signaling in chordoma biology. *PLoS ONE* 8: e79950.
2. Zhang, Y., et al. 2020. Directed differentiation of notochord-like and nucleus pulposus-like cells using human pluripotent stem cells. *Cell Rep.* 30: 2791-2806.e5.
3. 2021. 33<sup>rd</sup> European congress of pathology-abstracts. *Virchows Arch.* 479: 1-320.
4. Koh, H., et al. 2022. Generation and characterization of human umbilical cord blood-derived induced pluripotent stem cells (KRIBi005-A). *Stem Cell Res.* 60: 102674.

## RESEARCH USE

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