SANTA CRUZ BIOTECHNOLOGY, INC.

brachyury (H-210): sc-20109

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 (H-210) is a rabbit polyclonal antibody raised against amino acids 226-435 of brachyury of human origin.

PRODUCT

Each vial contains 200 µg IgG 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-20109 X, 200 µg/0.1 ml.

APPLICATIONS

brachyury (H-210) is recommended for detection of brachyury of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 (H-210) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of brachyury: 49 kDa.

Positive Controls: F9 cell lysate: sc-2245 or A549 cell lysate: sc-2413.

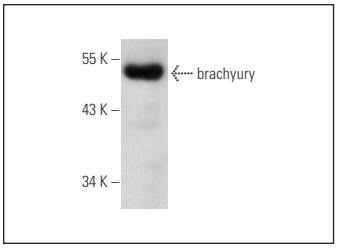
STORAGE

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

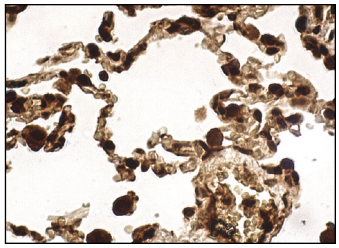
RESEARCH USE

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

DATA



brachyury (H-210): sc-20109. Western blot analysis of brachyury expression in A549 whole cell lysate.



brachyury (H-210): sc-20109. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing nuclear and cytoplasmic staining of pneumocytes and macrophages.

SELECT PRODUCT CITATIONS

1. Glasker, S., et al. 2006. Hemangioblastomas share protein expression with embryonal hemangioblast progenitor cell. Cancer Res. 66: 4167-4172.
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3. Roukens, M.G. 2008. BMP4 promotes EMT and mesodermal commitment in human embryonic stem cells via SLUG and MSX2. Nature 28: 2342-2357.
4. Ren, X., et al. 2010. Differentiation of murine embryonic stem cells toward renal lineages by conditioned medium from ureteric bud cells *in vitro*. Acta Biochim. Biophys. Sin. 42: 464-471.
5. Stacchiotti, S., et al. 2010. Chordoma of the mobile spine and sacrum: a retrospective analysis of a series of patients surgically treated at two referral centers. Ann. Surg. Oncol. 17: 211-219.
6. Toivonen, S., et al. 2013. Activin A and Wnt-dependent specification of human definitive endoderm cells. Exp. Cell Res. 319: 2535-2544.
7. Pinto, F., et al. 2014. T-box transcription factor brachyury is associated with prostate cancer progression and aggressiveness. Clin. Cancer Res. 20: 4949-4961.
8. Chen, X., et al. 2014. Melatonin promotes the acquisition of neural identity through extracellular-signal-regulated kinases 1/2 activation. J. Pineal Res. 57: 168-176.
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