SANTA CRUZ BIOTECHNOLOGY, INC.

OTX1/2 (N-15): sc-11026

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Transcription factors OTX1 and OTX2, two murine homologs of the *Drosophila* orthodenticle (OTD), show a limited amino acid sequence divergence. OTX1 and OTX2 play an important role during early and later events required for proper brain development in that they are involved in the processes of induction, specification and regionalization of the brain. OTX1 is involved in corticogenesis, sensory organ development and pituitary functions, while OTX2 is necessary earlier in development, for the correct anterior neural plate specification and organization of the primitive streak. OTX2 is also required in the early specification of the neuroectoderm, which is destined to become the fore-midbrain, and both OTX1 and OTX2 co-operate in patterning the developing brain through a dosage-dependent mechanism. A molecular mechanism depending on a precise threshold of OTX proteins is necessary for the correct positioning of the isthmic region and for anterior brain patterning. The genes which encode OTX1 and OTX2 map to human chromosomes 2p15 and 14q22.3, respectively.

REFERENCES

1. Kastury, K., et al. 1994. Chromosome locations of human EMX and OTX genes. Genomics 22: 41-45.
2. Acampora, D., et al. 1999. OTX genes in corticogenesis and brain development. Cereb. Cortex 9: 533-542.
3. Acampora, D. et al. 1999. The TINS Lecture. Understanding the roles of OTX1 and OTX2 in the control of brain morphogenesis. Trends Neurosci. 22: 116-122.
4. Acampora, D., et al. 1999. OTX genes and the genetic control of brain morphogenesis. Mol. Cell. Neurosci. 13: 1-8.
5. Suda, Y., et al. 1999. Functional equivalency between OTX2 and OTX1 in development of the rostral head. Development 126: 743-757.
6. Acampora, D., et al. 1999. Differential transcriptional control as the major molecular event in generating OTX1-/- and OTX2-/- divergent phenotypes. Development 126: 1417-1426.

CHROMOSOMAL LOCATION

Genetic locus: OTX1 (human) mapping to 2p15, OTX2 (human) mapping to 14q22.3; Otx1 (mouse) mapping to 11 A3.2, Otx2 (mouse) mapping to 14 C1.

SOURCE

OTX1/2 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of OTX1 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-11026 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-11026 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA)..

APPLICATIONS

OTX1/2 (N-15) is recommended for detection of OTX1 and OTX2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

OTX1/2 (N-15) is also recommended for detection of OTX1 and OTX2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for OTX1/2 siRNA (h): sc-43985, OTX1/2 shRNA Plasmid (h): sc-43985-SH and OTX1/2 shRNA (h) Lentiviral Particles: sc-43985-V.

Molecular Weight of OTX1/2: 37 kDa.

OTX1/2 (N-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Kam, K.Y., et al. 2005. Oct-1 and nuclear factor Y bind to the SURG-1 element to direct basal and gonadotropin-releasing hormone (GnRH)-stimulated mouse GnRH receptor gene transcription. Mol. Endocrinol. 19: 148-162.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.