

OTX2 (Y-23): sc-133873

BACKGROUND

Transcription factors, OTX1 and OTX2, are 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 cooperate 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. Differential transcriptional control as the major molecular event in generating OTX1^{-/-} and OTX2^{-/-} divergent phenotypes. *Development* 126: 1417-1426.
3. Morsli, H., et al. 1999. OTX1 and OTX2 activities are required for the normal development of the mouse inner ear. *Development* 126: 2335-2343.
4. Acampora, D., et al. 1999. OTX genes in corticogenesis and brain development. *Cereb. Cortex* 9: 533-542.
5. Acampora, D., et al. 1999. OTX genes and the genetic control of brain morphogenesis. *Mol. Cell. Neurosci.* 13: 1-8.
6. Suda, Y., et al. 1999. Functional equivalency between OTX2 and OTX1 in development of the rostral head. *Development* 126: 743-757.
7. Acampora, D., et al. 2000. Genetic and molecular roles of OTX homeo-domain proteins in head development. *Gene* 246: 23-35.

CHROMOSOMAL LOCATION

Genetic locus: OTX2 (human) mapping to 14q22.3; Otx2 (mouse) mapping to 14 C1.

SOURCE

OTX2 (Y-23) is an affinity purified rabbit polyclonal antibody raised against synthetic OTX2 peptide of human origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

STORAGE

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

APPLICATIONS

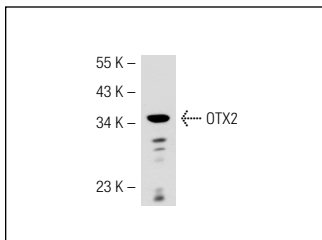
OTX2 (Y-23) is recommended for detection of OTX2 of mouse, rat, human, zebrafish and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, 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 OTX2 siRNA (h): sc-38741, OTX2 siRNA (m): sc-38742, OTX2 shRNA Plasmid (h): sc-38741-SH, OTX2 shRNA Plasmid (m): sc-38742-SH, OTX2 shRNA (h) Lentiviral Particles: sc-38741-V and OTX2 shRNA (m) Lentiviral Particles: sc-38742-V.

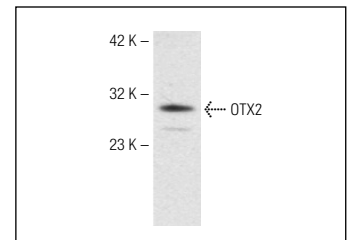
Molecular Weight of OTX2: 34-37 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Hep G2 nuclear extract or OTX2 (h2): 293T Lysate: sc-172552.

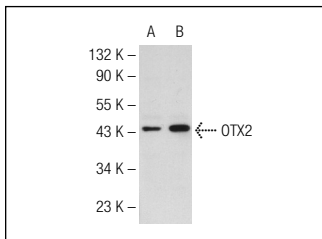
DATA



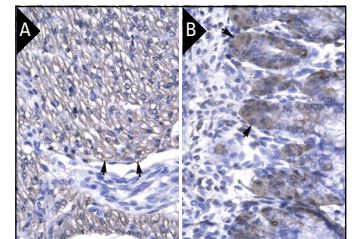
OTX2 (Y-23): sc-133873. Western blot analysis of OTX2 expression in Hep G2 nuclear extract.



OTX2 (Y-23): sc-133873. Western blot analysis of OTX2 expression in Jurkat whole cell lysate.



OTX2 (Y-23): sc-133873. Western blot analysis of OTX2 expression in non-transfected: sc-117752 (A) and human OTX2 transfected: sc-172552 (B) 293T whole cell lysates.



OTX2 (Y-23): sc-133873. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human heart tissue showing membrane localization (A) and formalin-fixed, paraffin-embedded human stomach tissue showing cytoplasmic localization (B).

RESEARCH USE

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



Try **OTX2 (D-8): sc-514195**, our highly recommended monoclonal alternative to OTX2 (Y-23).