SANTA CRUZ BIOTECHNOLOGY, INC.

OTX3 (E-9): sc-515294

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 related family member OTX3 is expressed in developing neural tissues and is required for postnatal survival, growth and brain development. OTX3 acts as a repressor of OTX2-mediated transactivation by forming a heterodimer with OTX2 on the TAATCC consensus motif.

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. Acampora, D., et al. 1999. OTX genes in corticogenesis and brain development. Cereb. Cortex 9: 533-542.
4. 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.

CHROMOSOMAL LOCATION

Genetic locus: DMBX1 (human) mapping to 1p33; Dmbx1 (mouse) mapping to 4 D1.

SOURCE

OTX3 (E-9) is a mouse monoclonal antibody raised against amino acids 123-290 mapping within an internal region of OTX3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

OTX3 (E-9) is available conjugated to agarose (sc-515294 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515294 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515294 PE), fluorescein (sc-515294 FITC), Alexa Fluor® 488 (sc-515294 AF488), Alexa Fluor® 546 (sc-515294 AF546), Alexa Fluor® 594 (sc-515294 AF594) or Alexa Fluor® 647 (sc-515294 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515294 AF680) or Alexa Fluor® 790 (sc-515294 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

OTX3 (E-9) is recommended for detection of OTX3 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 OTX3 siRNA (h): sc-61271, OTX3 siRNA (m): sc-61272, OTX3 shRNA Plasmid (h): sc-61271-SH, OTX3 shRNA Plasmid (m): sc-61272-SH, OTX3 shRNA (h) Lentiviral Particles: sc-61271-V and OTX3 shRNA (m) Lentiviral Particles: sc-61272-V.

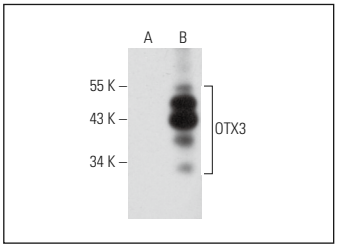
Molecular Weight of OTX3: 41 kDa.

Positive Controls: OTX3 (h2): 293T Lysate: sc-372127, C2C12 whole cell lysate: sc-364188 or A-10 cell lysate: sc-3806.

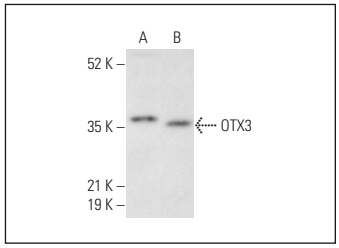
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



OTX3 (E-9): sc-515294. Western blot analysis of OTX3 expression in non-transfected: sc-117752 (**A**) and human OTX3 transfected: sc-372127 (**B**) 293T whole cell lysates.



OTX3 (E-9): sc-515294. Western blot analysis of OTX3 expression in C2C12 (**A**) and A-10 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Luo, J., et al. 2019. DMBX1 promotes tumor proliferation and regulates cell cycle progression via repressing OTX2-mediated transcription of p21 in lung adenocarcinoma cell. Cancer Lett. 453: 45-56.

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.