SANTA CRUZ BIOTECHNOLOGY, INC.

Emx2 (N-15): sc-19956

The Power to Question

BACKGROUND

Emx1 and Emx2 are human homologs to the *Drosophila* developmental genes empty spiracles expressed in anterior body regions during early *Drosophila* embryogenesis. Emx1 and Emx2 are homeobox proteins expressed in the developing vertebrate brain. Emx2 is expressed in the dorsal telencephalon and small diencephalic regions, while Emx1 expression is exclusively confined to pyramidal neurons of the dorsal telencephalon. In the embryonic brain, Emx1 is expressed in both proliferating and differentiating neurons while Emx2 is expressed only in proliferating neurons. OTX1 and OTX2 are human homologs of the *Drosophila* developmental genes orthodenticle. In development, the sequence of expression begins with OTX2 at day ten post coitum followed by OTX1, Emx2 and finally Emx1. The genes encoding human Emx1 and Emx2 map to chromosomes 2p13.2 and 10q26.11, respectively.

REFERENCES

1. Simeone, A., Gulisano, M., Acampora, D., Stornajuolo, A., Rambaldi, M. and Boncinelli, E. 1992. Two vertebrate homeobox genes related to the *Drosophila* empty spiracles gene are expressed in the embryonic cerebral cortex. EMBO J. 11: 2541-2550.
2. Simeone, A., Acampora, D., Gulisano, M., Stornajuolo, A. and Boncinelli, E. 1992. Nested expression domains of four homeobox genes in developing rostral brain. Nature 358: 687-690.
3. Kastury, K., Druck, T., Huebner, K., Barletta, C., Acampora, D., Simeone, A., Fajella, A. and Boncinelli, E. 1994. Chromosome locations of human EMX and OTX genes. Genomics 22: 41-45.
4. Gulisano, M., Broccoli, V., Pardini, C. and Boncinelli, E. 1996. Emx1 and Emx2 show different patterns of expression during proliferation and differentiation of the developing cerebral cortex in the mouse. Eur. J. Neurosci. 8: 1037-1050.

CHROMOSOMAL LOCATION

Genetic locus: EMX2 (human) mapping to 10q26.11; Emx2 (mouse) mapping to 19 D3.

SOURCE

Emx2 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Emx2 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.

Blocking peptide available for competition studies, sc-19956 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-19956 X, 200 µg/0.1 ml.

STORAGE

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

APPLICATIONS

Emx2 (N-15) is recommended for detection of Emx2 of mouse 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Emx2 siRNA (h): sc-38737, Emx2 siRNA (m): sc-38738, Emx2 shRNA Plasmid (h): sc-38737-SH, Emx2 shRNA Plasmid (m): sc-38738-SH, Emx2 shRNA (h) Lentiviral Particles: sc-38737-V and Emx2 shRNA (m) Lentiviral Particles: sc-38738-V.

Emx2 (N-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of Emx2: 28 kDa.

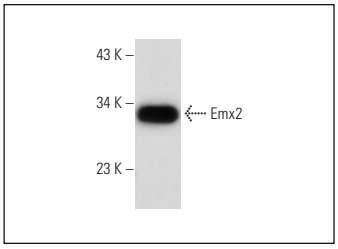
Molecular Weight (observed) of Emx2: 32 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or NIH/3T3 whole cell lysate: sc-2210.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Emx2 (N-15): sc-19956. Western blot analysis of Emx2 expression in NIH/3T3 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Ostrer, H., Huang, H.Y., Masch, R.J. and Shapiro, E. 2007. A cellular study of human testis development. Sex. Dev. 1: 286-292.

RESEARCH USE

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