

Emx2 (W-23): sc-133548

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.
5. Chan, C.H., Godinho, L.N., Thomaidou, D., Tan, S.S., Gulisano, M. and Parnavelas, J.G. 2001. Emx1 is a marker for pyramidal neurons of the cerebral cortex. *Cereb. Cortex* 11: 1191-1198.

CHROMOSOMAL LOCATION

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

SOURCE

Emx2 (W-23) is an affinity purified rabbit polyclonal antibody raised against synthetic Emx2 peptide of human origin.

STORAGE

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

PROTOCOLS

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

PRODUCT

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

APPLICATIONS

Emx2 (W-23) is recommended for detection of Emx2 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 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.

Molecular Weight (predicted) of Emx2: 28 kDa.

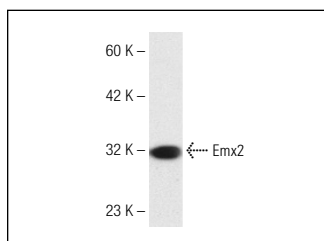
Molecular Weight (observed) of Emx2: 32 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Emx2 (W-23): sc-133548. Western blot analysis of Emx2 expression in Hep G2 whole cell lysate.

RESEARCH USE

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