

Emx1/2 (M-10): sc-19957

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 10 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., et al. 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., et al. 1992. Nested expression domains of four homeobox genes in developing rostral brain. *Nature* 358: 687-690.
3. Kastury, K., et al. 1994. Chromosome locations of human Emx and OTX genes. *Genomics* 22: 41-45.
4. Gulisano, M., et al. 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., et al. 2001. Emx1 is a marker for pyramidal neurons of the cerebral cortex. *Cereb. Cortex* 11: 1191-1198.

CHROMOSOMAL LOCATION

Genetic locus: EMX1 (human) mapping to 2p13.2, EMX2 (human) mapping to 10q26.11; Emx1 (mouse) mapping to 6 C3, Emx2 (mouse) mapping to 19 D3.

SOURCE

Emx1/2 (M-10) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Emx1 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-19957 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-19957 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Emx1/2 (M-10) is recommended for detection of Emx1 and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Emx1/2 (M-10) is also recommended for detection of Emx1 and Emx2 in additional species, including porcine.

Emx1/2 (M-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of Emx1 isoforms: 28/13 kDa.

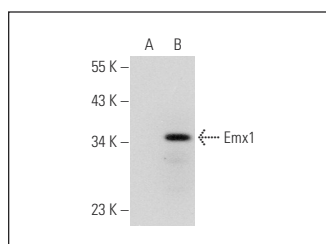
Molecular Weight (observed) of Emx1/2: 16/34 kDa.

Positive Controls: Emx1 (m): 293 Lysate: sc-178575.

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



Emx1/2 (M-10): sc-19957. Western blot analysis of Emx1 expression in non-transfected: sc-117750 (A) and mouse Emx1 transfected: sc-178575 (B) whole cell lysates.

RESEARCH USE

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

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Try **Emx1 (G-6): sc-398115**, our highly recommended monoclonal alternative to Emx1/2 (M-10).