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EMX2 Antibody

Catalog # ASC10523

Product Information

Application	E, IHC-P
Primary Accession	Q04743
Other Accession	Q04743, 19862512
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	28303
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	EMX2 antibody can be used for detection of EMX2 by immunohistochemistry at 5 □g/mL.

Additional Information

Gene ID	2018
Other Names	EMX2 Antibody: Homeobox protein EMX2, Empty spiracles homolog 2, empty spiracles homeobox 2
Target/Specificity	EMX2; At least two isoforms of EMX2 are known to exist; this antibody will detect both isoforms. EMX2 antibody is predicted to not cross-react with EMX1.
Reconstitution & Storage	EMX2 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	EMX2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	EMX2
Function	Transcription factor, which in cooperation with EMX1, acts to generate the boundary between the roof and archipallium in the developing brain. May function in combination with OTX1/2 to specify cell fates in the developing central nervous system. In the inner ear, it controls the distribution of GPR156 at hair cell boundaries, and regulates the organization of stereociliary bundles in opposite orientations across the line of polarity reversal (LPR).
Cellular Location	Nucleus {ECO:0000250|UniProtKB:Q04744}. Cell projection, axon

{ECO:0000250|UniProtKB:Q04744}. Note=Detected in axons within the olfactory mucosa and glomeruli in the olfactory bulb {ECO:0000250|UniProtKB:Q04744}

Tissue Location Cerebral cortex.

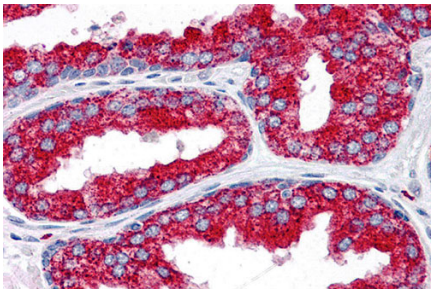
Background

EMX2 Antibody: EMX2, like its closely related homolog EMX1, is a homeobox transcription factor involved in specifying cell fates in the developing central nervous system and participates in the development of olfactory neurons. EMX2 is expressed in the dorsal telencephalon during development in a low rostral-lateral to high caudal-medial gradient and is proposed to pattern the neocortex into defined functional areas. It is also expressed in embryonic and adult olfactory neuroepithelia where it complexes with eukaryotic translation initiation factor 4E (eIF4E) and possibly regulates mRNA transport or translation. In the developing urogenital system, it is expressed in epithelial tissues and is negatively regulated by HOXA10.

References

Bishop KM, Garel S, Nakagawa Y, et al. EMX1 and Emx2 cooperate to regulate cortical size, lamination, neuronal differentiation, development of cortical efferents, and thalamocortical pathfinding. J. Comp. Neurol. 2003; 457:345-60.
Lichtneckert R, Nobs L, Reichert H. Empty spiracles is required for the development of olfactory projection neuron circuitry in Drosophila. Development 2008; 135:2415-24.
Gulisano M, et al. EMX2 and Emx2 show different patterns of expression during proliferation and differentiation of the developing cerebral cortex in the mouse. Eur. J. Neurosci. 1996; 8:1037-50.
Nedelec S, Foucher I, Brunet I, et al. Emx2 homeodomain transcription factor interacts with eukaryotic translation initiation factor 4E (eIF4E) in the axons of olfactory sensory neurons. Proc. Natl. Acad. Sci. USA 2004; 101:10815-20.

Images



Immunohistochemistry of EMX2 in human prostate tissue with EMX2 antibody at 5 µg/mL.