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SIX3 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP16129c

Product Information

Application	WB, E
Primary Accession	O95343
Other Accession	O93307, Q62233, O42406, NP_005404.1
Reactivity	Human, Mouse
Predicted	Mouse, Chicken, Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	35487
Antigen Region	138-166

Additional Information

Gene ID	6496
Other Names	Homeobox protein SIX3, Sine oculis homeobox homolog 3, SIX3
Target/Specificity	This SIX3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 138-166 amino acids from the Central region of human SIX3.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	SIX3 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SIX3
Function	Transcriptional regulator which can act as both a transcriptional repressor and activator by binding a ATTA homeodomain core recognition sequence on these target genes. During forebrain development represses WNT1 expression allowing zona limitans intrathalamica formation and thereby

ensuring proper anterio-posterior patterning of the diencephalon and formation of the rostral diencephalon. Acts as a direct upstream activator of SHH expression in the rostral diencephalon ventral midline and that in turn SHH maintains its expression. In addition, Six3 activity is required for the formation of the telencephalon. During postnatal stages of brain development is necessary for ependymal cell maturation by promoting the maturation of radial glia into ependymal cells through regulation of neuroblast proliferation and migration. Acts on the proliferation and differentiation of neural progenitor cells through activating transcription of CCND1 and CCND2. During early lens formation plays a role in lens induction and specification by activating directly PAX6 in the presumptive lens ectoderm. In turn PAX6 activates SIX3 resulting in activation of PDGFRA and CCND1 promoting cell proliferation. Also is required for the neuroretina development by directly suppressing WNT8B expression in the anterior neural plate territory. Its action during retina development and lens morphogenesis is TLE5 and TLE4-dependent manner. Furthermore, during eye development regulates several genes expression. Before and during early lens development represses the CRYGF promoter by binding a SIX repressor element. Directly activates RHO transcription, or cooperates with CRX or NRL. Six3 also functions in the formation of the proximodistal axis of the optic cup, and promotes the formation of optic vesicles-like structures. During pituitary development, acts in parallel or alternatively with HESX1 to control cell proliferation through Wnt/beta-catenin pathway (By similarity). Plays a role in eye development by suppressing WNT1 expression and in dorsal-ventral patterning by repressing BMP signaling pathway.

Cellular Location Nucleus {ECO:0000250|UniProtKB:Q62233, ECO:0000255|PROSITE-ProRule:PRU00108}

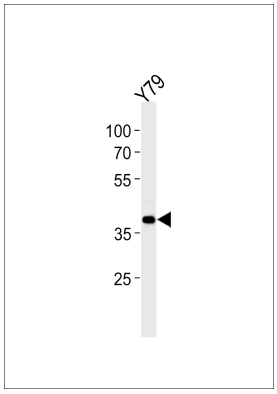
Background

This gene encodes a member of the sine oculis homeobox transcription factor family. The encoded protein plays a role in eye development. Mutations in this gene have been associated with holoprosencephaly type 2.

References

Paulussen, A.D., et al. Eur. J. Hum. Genet. 18(9):999-1005(2010)
Joslyn, G., et al. Alcohol. Clin. Exp. Res. 34(5):800-812(2010)
Hehr, U., et al. Hum. Genet. 127(5):555-561(2010)
Jugessur, A., et al. PLoS ONE 5 (7), E11493 (2010) :
Mikkola, I., et al. J. Biol. Chem. 276(6):4109-4118(2001)

Images



SIX3 Antibody (Center) (Cat. #AP16129c) western blot analysis in Y79 cell line lysates (35ug/lane).This demonstrates the SIX3 antibody detected the SIX3 protein (arrow).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.