

SIX3 Antibody (Center) Blocking Peptide
Synthetic peptide
Catalog # BP16129c**Specification**

SIX3 Antibody (Center) Blocking Peptide - Product InformationPrimary Accession [O95343](#)**SIX3 Antibody (Center) Blocking Peptide - Additional Information****Gene ID** 6496**Other Names**

Homeobox protein SIX3, Sine oculis homeobox homolog 3, SIX3

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

SIX3 Antibody (Center) Blocking Peptide - 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 antero-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 functions also 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}

SIX3 Antibody (Center) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

SIX3 Antibody (Center) Blocking Peptide - Images**SIX3 Antibody (Center) Blocking Peptide - 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.

SIX3 Antibody (Center) Blocking Peptide - 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)