

# SIX homeobox 4 Rabbit pAb

SIX homeobox 4 Rabbit pAb

Catalog # AP56719

## Product Information

---

|                                |                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Primary Accession</b>       | <a href="#">Q9UIU6</a>                                                                                                                                                                                                                                                                                                                        |
| <b>Predicted</b>               | Rat, Human, Mouse, Horse, Sheep                                                                                                                                                                                                                                                                                                               |
| <b>Host</b>                    | Rabbit                                                                                                                                                                                                                                                                                                                                        |
| <b>Clonality</b>               | Polyclonal                                                                                                                                                                                                                                                                                                                                    |
| <b>Calculated MW</b>           | 82933                                                                                                                                                                                                                                                                                                                                         |
| <b>Physical State</b>          | Liquid                                                                                                                                                                                                                                                                                                                                        |
| <b>Immunogen</b>               | KLH conjugated synthetic peptide derived from human SIX homeobox 4                                                                                                                                                                                                                                                                            |
| <b>Epitope Specificity</b>     | 701-781/781                                                                                                                                                                                                                                                                                                                                   |
| <b>Isotype</b>                 | IgG                                                                                                                                                                                                                                                                                                                                           |
| <b>Purity</b>                  | affinity purified by Protein A                                                                                                                                                                                                                                                                                                                |
| <b>Buffer</b>                  | 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.                                                                                                                                                                                                                                                                             |
| <b>SUBCELLULAR LOCATION</b>    | Nucleus.                                                                                                                                                                                                                                                                                                                                      |
| <b>Important Note</b>          | This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.                                                                                                                                                                                                                     |
| <b>Background Descriptions</b> | This gene encodes a member of the homeobox family, subfamily SIX. The drosophila homolog is a nuclear homeoprotein required for eye development. Studies in mouse show that this gene product functions as a transcription factor, and may have a role in the differentiation or maturation of neuronal cells. [provided by RefSeq, May 2010] |

## Additional Information

---

|                    |                                                                                                                                                                                                 |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene ID</b>     | 51804                                                                                                                                                                                           |
| <b>Other Names</b> | Homeobox protein SIX4, Sine oculis homeobox homolog 4, SIX4                                                                                                                                     |
| <b>Dilution</b>    | ELISA=1:5000-10000                                                                                                                                                                              |
| <b>Storage</b>     | Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C. |

## Protein Information

---

|                 |                                                                                                                                                                                                                                     |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Name</b>     | SIX4                                                                                                                                                                                                                                |
| <b>Function</b> | Transcriptional regulator which can act as both a transcriptional repressor and activator by binding a DNA sequence on these target genes and is involved in processes like cell differentiation, cell migration and cell survival. |

Transactivates gene expression by binding a 5'-[CAT]A[CT][CT][CTG]GA[GAT]-3' motif present in the Trex site and a 5'-TCA[AG][AG]TTNC-3' motif present in the MEF3 site of the muscle-specific genes enhancer. Acts cooperatively with EYA proteins to transactivate their target genes through interaction and nuclear translocation of EYA protein. Acts synergistically with SIX1 to regulate target genes involved in formation of various organs, including muscle, kidney, gonad, ganglia, olfactory epithelium and cranial skeleton. Plays a role in several important steps of muscle development. Controls the genesis of hypaxial myogenic progenitors in the dermomyotome by transactivating PAX3 and the delamination and migration of the hypaxial precursors from the ventral lip to the limb buds through the transactivation of PAX3, MET and LBX1. Controls myoblast determination by transactivating MYF5, MYOD1 and MYF6. Controls somitic differentiation in myocyte through MYOG transactivation. Plays a role in synaptogenesis and sarcomere organization by participating in myofiber specialization during embryogenesis by activating fast muscle program in the primary myotome resulting in an up-regulation of fast muscle genes, including ATP2A1, MYL1 and TNNT3. Simultaneously, is also able to activate inhibitors of slow muscle genes, such as SOX6, HRASLS, and HDAC4, thereby restricting the activation of the slow muscle genes. During muscle regeneration, negatively regulates differentiation of muscle satellite cells through down-regulation of MYOG expression. During kidney development regulates the early stages of metanephros development and ureteric bud formation through regulation of GDNF, SALL1, PAX8 and PAX2 expression. Plays a role in gonad development by regulating both testis determination and size determination. In gonadal sex determination, transactivates ZFP281 by binding a MEF3 consensus sequence, resulting in SRY up-regulation. In gonadal size determination, transactivates NR5A1 by binding a MEF3 consensus sequence resulting in gonadal precursor cell formation regulation. During olfactory development mediates the specification and patterning of olfactory placode through fibroblast growth factor and BMP4 signaling pathways and also regulates epithelial cell proliferation during placode formation. Promotes survival of sensory neurons during early trigeminal gangliogenesis. In the developing dorsal root ganglia, up-regulates SLC12A2 transcription. Regulates early thymus/parathyroid organogenesis through regulation of GCM2 and FOXN1 expression. Forms gustatory papillae during development of the tongue. Also plays a role during embryonic cranial skeleton morphogenesis.

#### Cellular Location

Nucleus {ECO:0000250|UniProtKB:Q61321}. Cytoplasm {ECO:0000250|UniProtKB:Q61321}

## Background

---

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

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