

**Datasheet for 600-401-A26S****Six3 Antibody****Overview**

|                      |                                                             |
|----------------------|-------------------------------------------------------------|
| <b>Description:</b>  | Anti-Homeobox protein SIX3 (RABBIT) Antibody - 600-401-A26S |
| <b>Item No.:</b>     | 600-401-A26S                                                |
| <b>Size:</b>         | 25 µL                                                       |
| <b>Applications:</b> | ELISA, IHC, WB, IF, Multiplex                               |
| <b>Reactivity:</b>   | Mouse                                                       |
| <b>Host Species:</b> | Rabbit                                                      |

**Product Details**

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Background:</b>   | Six3 (also known as sine oculis homeobox homolog 3) is involved in the development of the visual system and forebrain. Six3 is a nuclear protein that is reported to exist in two forms by alternative splicing of the gene product. Six3 is first expressed at E6.5 of mouse embryonic development around the anterior border. At E8.5, expression is found over the anterior neural plate. At E9.5, it is in the diencephalic part of the ventral forebrain, optic vesicles, olfactory placodes and Rathke's pouch. In later stages, Six3 is present in hypothalamus, eyes and pituitary. |
| <b>Synonyms:</b>     | rabbit anti-Six3 antibody, Six-3, Six 3, Homeobox protein SIX3, Sine oculis homeobox homolog 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Host Species:</b> | Rabbit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Clonality:</b>    | Polyclonal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Format:</b>       | IgG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

**Target Details**

|                        |                                                                                                                                                                                             |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name:</b>      | Six3                                                                                                                                                                                        |
| <b>Reactivity:</b>     | Mouse                                                                                                                                                                                       |
| <b>Immunogen Type:</b> | Conjugated Peptide                                                                                                                                                                          |
| <b>Immunogen:</b>      | This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an internal region of mouse Six3 protein. |

|                            |                                                                                                                                                                                                               |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purity/Specificity:</b> | This product was affinity purified from monospecific antiserum by immunoaffinity chromatography. This antibody reacts with mouse Six3. Cross-reactivity with Six3 from other sources has not been determined. |
| <b>Relevant Links:</b>     | <ul style="list-style-type: none"><li>• <a href="#">UniProtKB - Q62233</a></li><li>• <a href="#">GeneID - 20473</a></li><li>• <a href="#">NCBI - 59939908</a></li></ul>                                       |

## Application Details

|                                |                                                                                                                                                                                                                                                                                                                      |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Tested Applications:</b>    | ELISA, IHC, WB                                                                                                                                                                                                                                                                                                       |
| <b>Suggested Applications:</b> | IF, Multiplex (Based on references)                                                                                                                                                                                                                                                                                  |
| <b>Application Note:</b>       | This affinity purified antibody has been tested for use in ELISA, immunohistochemistry and western blotting. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 37 kDa in size corresponding to Six3 by western blotting in the appropriate cell lysate or extract. |
| <b>Assay Dilutions:</b>        | All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.                                                                                                                                                                                                                      |
| <b>ELISA:</b>                  | 1:10,000-1:15,000                                                                                                                                                                                                                                                                                                    |
| <b>IF:</b>                     | 1:200 - 1:1,000                                                                                                                                                                                                                                                                                                      |
| <b>IHC:</b>                    | 1:100-1:250                                                                                                                                                                                                                                                                                                          |
| <b>WB:</b>                     | 1:500 - 1:2,000                                                                                                                                                                                                                                                                                                      |

## Formulation

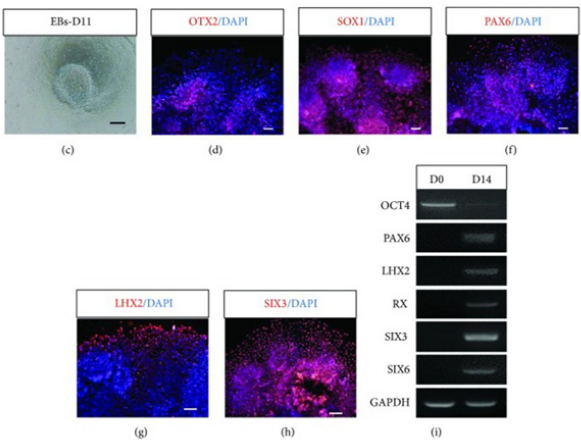
|                        |                                                            |
|------------------------|------------------------------------------------------------|
| <b>Physical State:</b> | Liquid (sterile filtered)                                  |
| <b>Concentration:</b>  | 1.1 mg/mL by UV absorbance at 280 nm                       |
| <b>Buffer:</b>         | 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2 |
| <b>Preservative:</b>   | 0.01% (w/v) Sodium Azide                                   |
| <b>Stabilizer:</b>     | None                                                       |

## Shipping & Handling

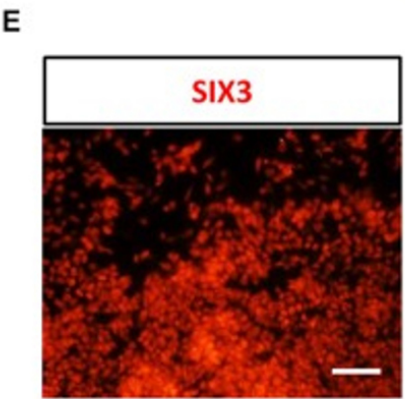
|                            |         |
|----------------------------|---------|
| <b>Shipping Condition:</b> | Dry Ice |
|----------------------------|---------|

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Storage Condition:</b> | Store vial at -20° C or below prior to opening. This vial contains a relatively low volume of reagent (25 µL). To minimize loss of volume dilute 1:10 by adding 225 µL of the buffer stated above directly to the vial. Recap, mix thoroughly and briefly centrifuge to collect the volume at the bottom of the vial. Use this intermediate dilution when calculating final dilutions as recommended below. Store the vial at -20°C or below after dilution. Avoid cycles of freezing and thawing. |
| <b>Expiration:</b>        | Expiration date is three (3) months from date of receipt.                                                                                                                                                                                                                                                                                                                                                                                                                                          |

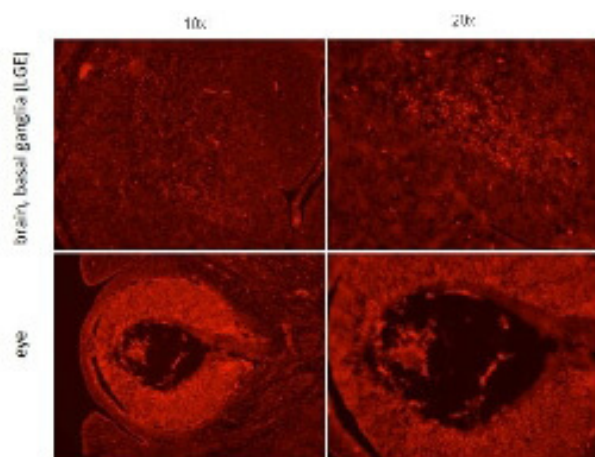
### Images



**Immunofluorescence Microscopy**  
(c) Cells spread out from EBs on adherent surface on D11. Scale bar = 250 µm. (d–h) Immunofluorescence staining revealed that differentiated cells expressed markers specific for anterior neural plate and eye field cells, SOX1 (d), PAX6 (e), OTX2 (f), LHX2 (g), and SIX3 (h). Scale bars = 50 µm. (i) RT-PCR showed that differentiated cells expressed EF transcription factors PAX6, LHX2, RX, SIX3, and SIX6 on D14 with low expression of pluripotency marker OCT4. Fig 2. PMID: 30008752

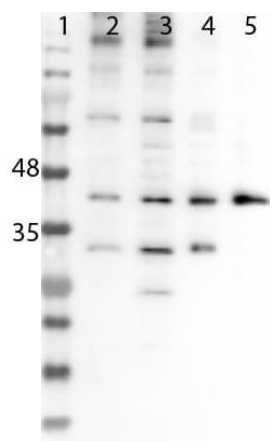


**Immunofluorescence Microscopy**  
(E) SIX3-positive retinal progenitor cells appeared around D12. Scale bars, 20 µm. Fig 3. PMID: 31572124



### Immunohistochemistry

Immunohistochemistry of Rabbit anti-Six-3 antibody.  
 Tissue: mouse retina and brain basal ganglia (LGE). Fixation: PFA fixed and embedded in OCT/Tissue Tek for cryo. Antigen retrieval: not required. Primary antibody: SIX3 antibody at 1:500 for overnight at RT. Secondary antibody: Donkey anti Rabbit Cy3 secondary antibody. Localization: nuclear. Staining: antibody visualized as red signal.



### Western Blot

Western Blot of Rabbit Anti-Six3 Antibody. Lane 1: Opal Pre-Stained Molecular Weight p/n MB-210-0500. Lane 2: MEF WCL (p/n W10-001-371). Lane 3: 3T3 WCL (p/n W10-000-358). Lane 4: Mouse Brain WCL (p/n W10-000-T004). Lane 5: Mouse Liver WCL (p/n W10-000-T020). Load: 10µg. Primary Antibody: Rabbit Anti-Six3 at 1µg/mL at 4°C overnight. Secondary Antibody: Gt anti-Rabbit HRP (p/n 611-103-122) at 1:40,00 1hr RT. Blocking: BlockOut (p/n MB-073) Buffer for 30 minutes at RT. Predicted MW: ~37kDa.

## References

- Brignani S, Raj DDA, Schmidt ERE, et al. Remotely Produced and Axon-Derived Netrin-1 Instructs GABAergic Neuron Migration and Dopaminergic Substantia Nigra Development. *Neuron* (2020)
- Li, G et al. Generation and Characterization of Induced Pluripotent Stem Cells and Retinal Organoids From a Leber's Congenital Amaurosis Patient With Novel RPE65 Mutations. *Frontiers in Molecular Neuroscience* (2019)
- Roy, A et al. PI3K-Yap activity drives cortical gyrification and hydrocephalus in mice. *ELife* (2019)
- Xu et al. SP8 and SP9 coordinately promote D2-type medium spiny neuron production by activating Six3 expression. *Development* (2018)
- Li et al. Generation of Retinal Organoids with Mature Rods and Cones from Urine-Derived Human Induced Pluripotent Stem Cells. *Stem Cells International* (2018)
- Diacou et al. Six3 and Six6 Are Jointly Required for the Maintenance of Multipotent Retinal Progenitors through Both Positive and Negative Regulation. *Cell Reports* (2018)

## Disclaimer

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