Anti-Human SOX1 Antibody,
Clone EPR4766

Antibodies

Rabbit monoclonal IgG antibody
against human, mouse SOX1,
unconjugated

Catalog #60095   0.1 mL

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Product Description

The EPR4766 antibody reacts with SOX1, also known as SRY (sex determining region Y)-box 1, an ~40 kDa nuclear transcription factor belonging to the SRY-related HMG-box family. SOX1 is involved in regulating development of the central nervous system and is an early marker for neuroectodermal differentiation in the embryo. Its expression is down-regulated during differentiation in many neuronal subtypes. SOX1 is also a useful marker for identifying embryonic and somatic neuronal progenitor cells (NPCs), in concert with other markers such as SOX2 and SOX9. SOX1 is thought to promote self-renewal in NPCs, whereas it functions in other cell types to promote differentiation. There is evidence that SOX1 plays a role in tumor suppression by binding to ß-catenin and attenuating the WNT signaling pathway, and in mice it plays an essential role in lens development by regulating expression of γ-crystallins. The EPR4766 antibody does not cross-react with rat SOX1.

Target Antigen Name:	SOX1
Alternative Names:	Sox-1, SRY (sex determining region Y)-box 1, SRY-related HMG-box
Gene ID:	6656
Species Reactivity:	Human, Mouse
Host Species:	Rabbit
Clonality:	Monoclonal
Clone:	EPR4766
Isotype:	IgG
Immunogen:	Synthetic peptide corresponding to the partial amino acid sequence of human SOX1
Conjugate:	Unconjugated

Applications

Verified:	ICC, IF, IHC, WB
Reported:	ICC, IF, IHC, WB
Special Applications:	This antibody clone has been verified for labeling neural stem and progenitor cells grown with STEMdiff™ Neural Induction Medium (Catalog #05835), STEMdiff™ Neural Progenitor Medium (Catalog #05833), NeuroCult™ NS-A Proliferation Kit (Human; Catalog #05751) and NeuroCult™ Proliferation Kit (Mouse; Catalog #05702).

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence activated cell sorting; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

Properties

Formulation:	Phosphate-buffered solution containing 0.01% sodium azide, 0.05% (w/v) bovine serum albumin and 50% glycerol
Purification:	The antibody is supplied as tissue culture supernatant
Stability and Storage:	Product stable at -20°C when stored undiluted. Do not freeze. For product expiry date, please contact techsupport@stemcell.com.
Directions for Use:	The suggested use of this antibody is: ICC/IF, 1:100 - 1:1000 dilution; IHC, 1:100 - 1:250 dilution; WB, 1:1000 - 1:10000 dilution. It is recommended that the antibody be titrated for optimal performance for each application.

Data
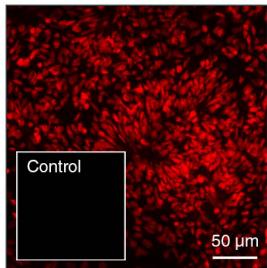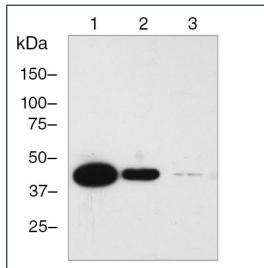
(A) Human NPCs were generated from induced pluripotent stem (iPS) cells using STEMdiff™ Neural Induction Medium on Corning® Matrigel®-coated glass coverslips, then fixed and labeled with Anti-Human SOX1 Antibody, Clone EPR4766, followed by donkey anti-rabbit IgG, Alexa Fluor® 594. Inset shows control cells incubated with buffer instead of primary antibody, followed by donkey anti-rabbit IgG, Alexa Fluor® 594.

(B) Western blot analysis of denatured/reduced cell lysates from human NPCs generated from iPS cells using STEMdiff™ Neural Induction Medium (lane 1), mouse E13.5 neural progenitor cells cultured with NeuroCult™ Proliferation Kit (Mouse) (lane 2), or HT1080 human fibrosarcoma cells (negative control, lane 3) with Anti-Human SOX1 Antibody, Clone EPR4766.

Related Products

For a complete list of antibodies, including other conjugates, sizes and clones, as well as related products available from STEMCELL Technologies, please visit our website at www.stemcell.com/antibodies or contact us at techsupport@stemcell.com.

References

1. Feng N et al. (2014) Generation of highly purified neural stem cells from human adipose-derived mesenchymal stem cells by Sox1 activation. Stem Cells Dev 23(5): 515–29. (FC)

2. Malchenko S et al. (2014) Onset of rosette formation during spontaneous neural differentiation of hESC and hiPSC colonies. Gene 534(2): 400–7. (ICC, IF)

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4. Ko HA et al. (2013) Cell type-selective expression of the zinc finger-containing gene Nolz-1/Zfp503 in the developing mouse striatum. Neurosci Lett 548: 44–9. (IF, IHC)

5. Tsao CM et al. (2012) SOX1 functions as a tumor suppressor by antagonizing the WNT/β-catenin signaling pathway in hepatocellular carcinoma. Hepatology 56(6): 2277–87. (ICC, IF, IP, WB)

6. Venere M et al. (2012) Sox1 marks an activated neural stem/progenitor cell in the hippocampus. Development 139(21): 3938–49. (IF, IHC)

7. Zhao WN et al. (2012) A high-throughput screen for Wnt/β-catenin signaling pathway modulators in human iPSC-derived neural progenitors. J Biomol Screen 17(9): 1252–63. (ICC, IF)

8. Chen HF et al. (2009) Novel autogenic feeders derived from human embryonic stem cells (hESCs) support an undifferentiated status of hESCs in xeno-free culture conditions. Hum Reprod 24(5): 1114–25. (ICC, IF)

9. Genethliou N et al. (2009) SOX1 links the function of neural patterning and Notch signalling in the ventral spinal cord during the neuron-glial fate switch. Biochem Biophys Res Commun 390(4): 1114–20. (IF, IHC)

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11. Bylund M et al. (2003) Vertebrate neurogenesis is counteracted by Sox1-3 activity. Nat Neurosci 6(11): 1162–8. (IF, IHC)

12. Malas S et al. (1997) Cloning and mapping of the human SOX1: a highly conserved gene expressed in the developing brain. Mamm Genome 8(11): 866–8.

Please refer to the Safety Data Sheet (SDS) for hazard information.