Anti-PAX6 Antibody

Antibodies

Rabbit polyclonal antibody against PAX6, unconjugated

Catalog #60094   0.1 mL   2 mg/mL

Product Description

The anti-PAX6 antibody reacts with the PAX6 (paired box gene 6) protein from multiple species. PAX6 is an ~46 - 50 kDa nuclear transcription factor belonging to the paired box gene family and is expressed during embryonic neurogenesis in the brain and central nervous system (CNS), as well as in neuroepithelial cells of the retina. PAX6 has important roles in development of the eyes, nose, CNS and pituitary gland, and is crucial for regulating alpha cell differentiation and glucagon synthesis in the pancreas. PAX6 expression appears to be involved in several types of cancers and PAX6 mutations give rise to eye disorders such as aniridia in humans and small-eye (Sey) defects in mice. At least three PAX6 isoforms are encoded by the vertebrate PAX6 locus. The canonical PAX6 protein contains an N-terminal paired domain connected by a linker region to a paired-type homeobox domain, and a P/S/T-rich C-terminal domain. The paired and homeobox domains have DNA binding activities, while the P/S/T-rich domain has a transactivation function.

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Target Antigen Name:	PAX6
Alternative Names:	Aniridia type II protein, oculorhombin, paired box protein PAX6, Pax-6
Gene ID:	5080
Species Reactivity:	Multiple species
Host Species:	Rabbit
Clonality:	Polyclonal
Clone:	Not applicable
Isotype:	IgG
Immunogen:	Synthetic peptide (QVPGSEPDMSQYWPRLQ) derived from the C-terminus of the PAX6 protein
Conjugate:	Unconjugated

Applications

Verified:	FC, ICC, IF, IHC, WB
Reported:	ChIP, 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), NeuroCult™ Proliferation Kit (Mouse; Catalog #05702) and NeuroCult™ NS-A Proliferation Kit (Rat; Catalog #05771).

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

Properties

Formulation:	Phosphate-buffered solution containing 0.03% thimerosal
Purification:	The antibody was purified by Protein A affinity chromatography.
Stability and Storage:	Product stable at 2 - 8°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, 1:300 - 1:500 dilution; IHC, 1:50 - 1:100 dilution; WB, 1:200 - 1:500 dilution. It is recommended that the antibody be titrated for optimal performance for each application.

Data

PAX6 Alexa Fluor® 488
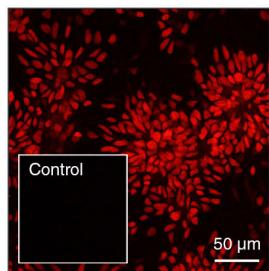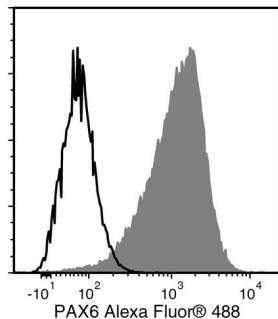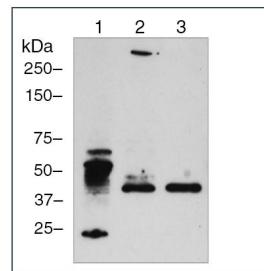
(A) Human neural progenitor cells (NPCs) were generated from induced pluripotent stem (iPS) cells using STEMdiff™ Neural Induction Medium and cultured on Corning® Matrigel®-coated glass coverslips. Cells were fixed and labeled with Anti-PAX6 Antibody followed by donkey anti-rabbit IgG, Alexa Fluor® 594. Inset shows control cells incubated with buffer instead of primary antibody, followed by donkey anti-rabbit IgG, Alexa Fluor® 594.
(B) Flow cytometry analysis of human NPCs generated from iPS cells using STEMdiff™ Neural Induction Medium and cultured on Corning® Matrigel®. NPCs were fixed and labeled with Anti-PAX6 Antibody followed by donkey anti-rabbit IgG, Alexa Fluor® 488 (filled histogram) or with buffer instead of primary antibody, followed by donkey anti-rabbit IgG, Alexa Fluor® 488 (negative control; open histogram).
(C) Western blot analysis of denatured/reduced cell lysates with Anti-PAX6 Antibody. Lane 1, human NPCs generated from iPS cells using STEMdiff™ Neural Induction Medium; lane 2, mouse E13.5 neural progenitor cells cultured with NeuroCult™ Proliferation Kit (Mouse); lane 3, rat brain tissue.

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

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3. Harrison-Uy SJ et al. (2013) CoupTFI interacts with retinoic acid signaling during cortical development. PLoS One 8(3): e58219. (IF, IHC)
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