Antibodies

Anti-Human PAX6 Antibody, Polyclonal

Rabbit polyclonal antibody
against human, mouse PAX6, unconjugated

Catalog #100-1340

100 µL

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Product Description

This rabbit polyclonal antibody reacts with human and mouse paired box protein Pax6, a ~46 kDa protein encoded by PAX6 gene belonging to the PAX family of transcription factors. Expressed in the brain, eyes, pancreas, and spinal cord, Pax6 potentiates embryonic development, as well as the maintenance of glucose homeostasis and function of the endocrine pancreas. Pax6 has at least 3 isoforms generated via alternative mRNA splicing; Pax6, Pax6(5a), and Pax6(ΔPD). Pax6 contains two DNA-binding domains, the paired domain (PD), and a paired-type homeodomain (HD), connected by a linker region. Downstream of the HD, a P/S/T-rich domain at the C-terminal acts as an activator of gene expression. The Pax6(5a) splice variant contains a 14 amino acid insert into the PD, altering the specificity of its DNA binding activity, while the Pax6(ΔPD) isoform lacks a PD, resulting in a truncated protein. In humans, mutations of the PAX6 gene resulted in aniridia and related developmental eye diseases, while Pax6 deficiency in adult mice resulted in progressive hyperglycemia.

Target Antigen Name:	PAX6
Alternative Names:	AN, AN1, AN2, ASGD5, D11S812E, FVH1, MGDA, WAGR
Gene ID:	5080
Species Reactivity:	Human, Mouse
Host Species:	Rabbit
Clonality:	Polyclonal
Clone:	Not applicable
Isotype:	Not applicable
Immunogen:	Human Pax6
Conjugate:	Unconjugated

Applications

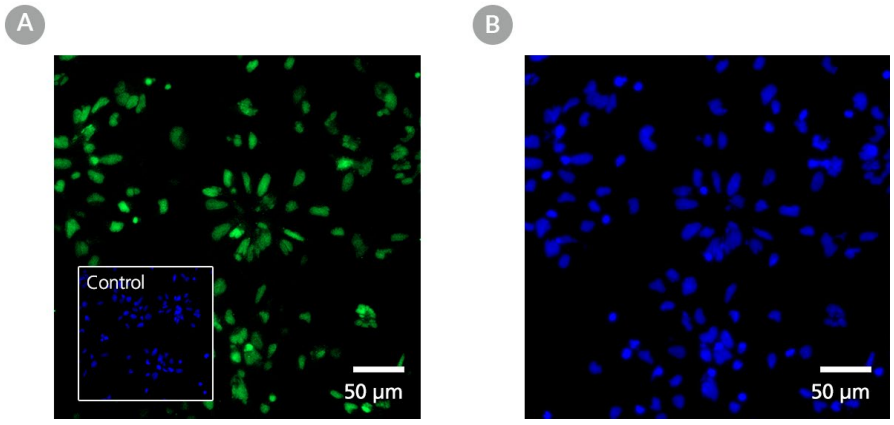
Verified:	ICC/IF
Special Applications:	This antibody clone has been verified for labeling PAX6-positive human pluripotent stem cell-derived neural stem and progenitor cells generated with STEMdiff™ SMADi Neural Induction Kit (Catalog #08581) and STEMdiff™ Neural Progenitor Medium (Catalog #05833).

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; IHC-P: Immunohistochemistry (paraffin-embedded); IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

Properties

Formulation:	Phosphate-buffered saline, pH 7.3, containing 0.1% sodium azide and 50% glycerol
Purification:	The antibody was purified by affinity chromatography.
Stability and Storage:	Product stable at -20°C when stored undiluted. Avoid repeated freeze-thaw cycles. Stable until expiry date (EXP) on label.
Directions for Use:	The suggested use for this antibody is: ICC/IF, 2 µg/mL. It is recommended that the antibody be titrated for optimal performance for each application. For antibody concentration, refer to the lot-specific Certificate of Analysis at www.stemcell.com/coa.

Data



(A) Human neural progenitor cells (NPCs) were generated from induced pluripotent stem cells using STEMdiff™ SMADi Neural Induction Kit and STEMdiff™ Neural Progenitor Medium and cultured on Corning® Matrigel®, then fixed and labeled with Anti-Human PAX6 Antibody, followed by Goat Anti-Rabbit IgG (H+L) Antibody, Polyclonal, iFluor™ 488 (green) (Catalog #100-1082). Inset shows NPCs labeled with a rabbit IgG isotype control antibody, followed by Goat Anti-Rabbit IgG (H+L) Antibody, Polyclonal, iFluor™ 488 (with DAPI staining).
(B) DAPI (blue) counterstaining of the cells shown in figure (A); nuclear localization of PAX6 is evident.

Related Products

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

References

1. Larsson LI et al. (1998) Pax4 and 6 regulate gastrointestinal endocrine cell development. Mechanisms of Development 79(1-2): 153–9.
2. Nishina S et al. (1999) PAX6 expression in the developing human eye. British Journal of Ophthalmology 83(6): 723–7.
3. Tabasaran J et al. (2022) PAX6 is frequently expressed in ependymal tumours and associated with prognostic relevant subgroups. Journal of Clinical Pathology 75(11): 759–65.