abcam

Product datasheet

Anti-PAX6 antibody [EPR3352(2)] - BSA and Azide free ab238149

Recombinant RabMAb

9 Images

Overview

Product name	Anti-PAX6 antibody [EPR3352(2)] - BSA and Azide free
Description	Rabbit monoclonal [EPR3352(2)] to PAX6 - BSA and Azide free
Host species	Rabbit
Tested applications	**Suitable for:** IHC-P, WB, IP, mIHC **Unsuitable for:** Flow Cyt or ICC/IF
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	HeLa nuclear extract lysate (**ab14655**) can be used as a positive control in WB. IHC-P: Normal rat retina tissue. mIHC: Human retina tissue.
General notes	ab238149 is the carrier-free version of **ab109233**. Our **carrier-free** antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications. Use our **conjugation kits** for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold. This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc. This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.2 Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR3352(2)
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab238149 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
WB		Use at an assay dependent concentration. Detects a band of approximately 47 kDa (predicted molecular weight: 47 kDa).
IP		Use at an assay dependent concentration.
mIHC		Use at an assay dependent concentration.

Application notes Is unsuitable for Flow Cyt or ICC/IF.

Target

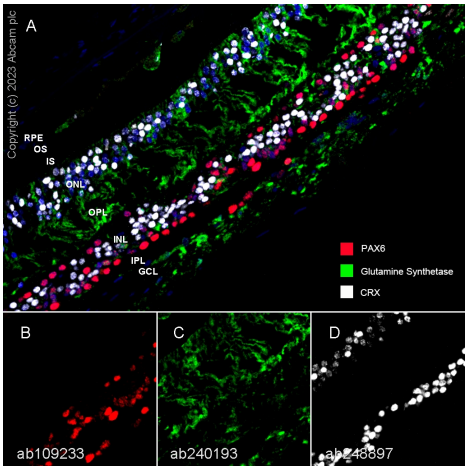
Function Transcription factor with important functions in the development of the eye, nose, central nervous system and pancreas. Required for the differentiation of pancreatic islet alpha cells (By similarity). Competes with PAX4 in binding to a common element in the glucagon, insulin and somatostatin promoters. Regulates specification of the ventral neuron subtypes by establishing the correct progenitor domains (By similarity). Isoform 5a appears to function as a molecular switch that specifies target genes.

Tissue specificity Fetal eye, brain, spinal cord and olfactory epithelium. Isoform 5a is less abundant than the PAX6 shorter form.

Involvement in disease Defects in PAX6 are the cause of aniridia (AN) [MIM:106210]. A congenital, bilateral, panocular disorder characterized by complete absence of the iris or extreme iris hypoplasia. Aniridia is not just an isolated defect in iris development but it is associated with macular and optic nerve

	hypoplasia, cataract, corneal changes, nystagmus. Visual acuity is generally low but is unrelated to the degree of iris hypoplasia. Glaucoma is a secondary problem causing additional visual loss over time. Defects in PAX6 are a cause of Peters anomaly (PAN) [MIM:604229]. Peters anomaly consists of a central corneal leukoma, absence of the posterior corneal stroma and Descemet membrane, and a variable degree of iris and lenticular attachments to the central aspect of the posterior cornea. Defects in PAX6 are a cause of foveal hypoplasia (FOVHYP) [MIM:136520]. Foveal hypoplasia can be isolated or associated with presenile cataract. Inheritance is autosomal dominant. Defects in PAX6 are a cause of keratitis hereditary (KERH) [MIM:148190]. An ocular disorder characterized by corneal opacification, recurrent stromal keratitis and vascularization. Defects in PAX6 are a cause of coloboma ocular (COLO) [MIM:120200]; also known as uveoretinal coloboma or coloboma of iris, choroid and retina. Ocular colobomas are a set of malformations resulting from abnormal morphogenesis of the optic cup and stalk, and the fusion of the fetal fissure (optic fissure). Severe colobomatous malformations may cause as much as 10% of the childhood blindness. The clinical presentation of ocular coloboma is variable. Some individuals may present with minimal defects in the anterior iris leaf without other ocular defects. More complex malformations create a combination of iris, uveoretinal and/or optic nerve defects without or with microphthalmia or even anophthalmia. Defects in PAX6 are a cause of coloboma of optic nerve (COLON) [MIM:120430]. Defects in PAX6 are a cause of bilateral optic nerve hypoplasia (BONH) [MIM:165550]; also known as bilateral optic nerve aplasia. A congenital anomaly in which the optic disc appears abnormally small. It may be an isolated finding or part of a spectrum of anatomic and functional abnormalities that includes partial or complete agenesis of the septum pellucidum, other midline brain defects, cerebral anomalies, pituitary dysfunction, and structural abnormalities of the pituitary. Defects in PAX6 are a cause of aniridia cerebellar ataxia and mental deficiency (ACAMD) [MIM:206700]; also known as Gillespie syndrome. A rare condition consisting of partial rudimentary iris, cerebellar impairment of the ability to perform coordinated voluntary movements, and mental retardation.
Sequence similarities	Belongs to the paired homeobox family. Contains 1 homeobox DNA-binding domain. Contains 1 paired domain.
Developmental stage	Expressed in the developing eye and brain.
Post-translational modifications	Ubiquitinated by TRIM11, leading to ubiquitination and proteasomal degradation.
Cellular localization	Nucleus.

Images



Multiplex immunohistochemistry - Anti-PAX6 antibody [EPR3352(2)] - BSA and Azide free (ab238149)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109233**).

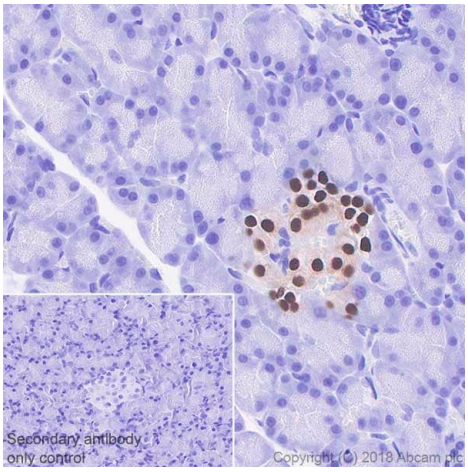
Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded Human retina tissue labeling PAX6, Glutamine Synthetase and CRX with **ab109233** at 1/10000 dilution, **ab240193** at 1/20000 dilution and **ab248897** at 1/1000 dilution followed by a ready to use Opal Polymer HRP Ms + Rb secondary antibody. Nuclear counter stain used was DAPI.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

Panel A: merged staining of anti-CRX (gray; Opal™690), anti-Glutamine Synthetase (green; Opal™520) and anti-PAX6 (red; Opal™570) on human retina.
Panel B: anti-PAX6 stained on retinal progenitor cells.
Panel C: anti-Glutamine Synthetase stained on Müller glia.
Panel D: anti-CRX stained on subset cells of outer nuclear layer and inner nuclear layer.

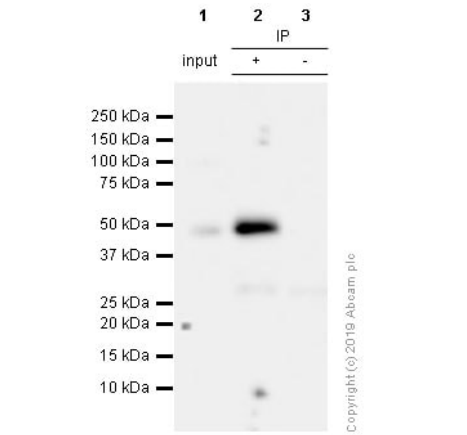
The section was incubated in three rounds of staining: in the order of **ab248897**, **ab240193**, and **ab109233** for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX6 antibody [EPR3352(2)] - BSA and Azide free (ab238149)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Rat pancreas tissue sections labeling PAX6 with Purified **ab109233** at 1:2000 dilution (0.52 µg/ml). Heat mediated antigen retrieval was performed using **ab93684** (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use)was used. Negative control:PBS instead of the primary antibody. Hematoxylin was used as a counterstain. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109233**).



Immunoprecipitation - Anti-PAX6 antibody [EPR3352(2)] - BSA and Azide free (ab238149)

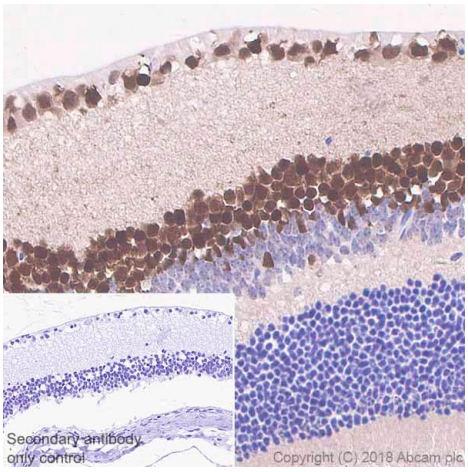
ab109233 (purified) at 1/500 dilution (2.078 µg/ml) immunoprecipitating PAX6 in HeLa whole cell lysate.

Lane 1 (input): HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate 10µg
Lane 2 (+): **ab109233** & HeLa whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (**ab172730**) instead of **ab109233** in HeLa whole cell lysate

For western blotting, veriBlot for IP secondary antibody (HRP) (**ab131366**) was used at 1/1000 dilution.

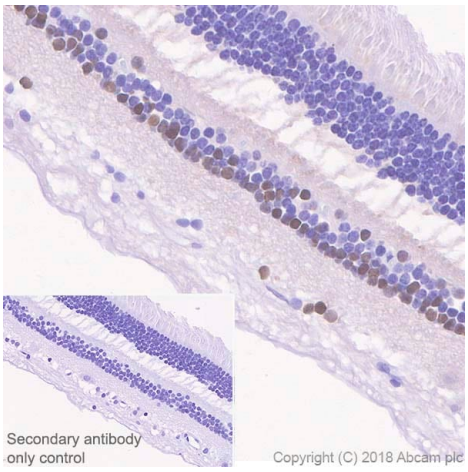
Blocking and diluting buffer: 5% NFDM /TBST.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide(**ab109233**).



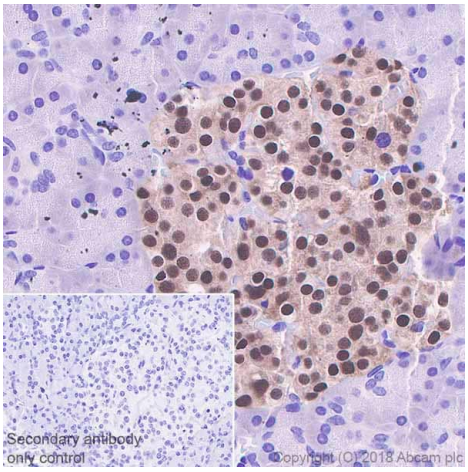
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX6 antibody [EPR3352(2)] - BSA and Azide free (ab238149)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Mouse retina tissue sections labeling PAX6 with Purified **ab109233** at 1:2000 dilution (0.52 µg/ml). Heat mediated antigen retrieval was performed using **ab93684** (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used. Negative control:PBS instead of the primary antibody. Hematoxylin was used as a counterstain. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109233**).



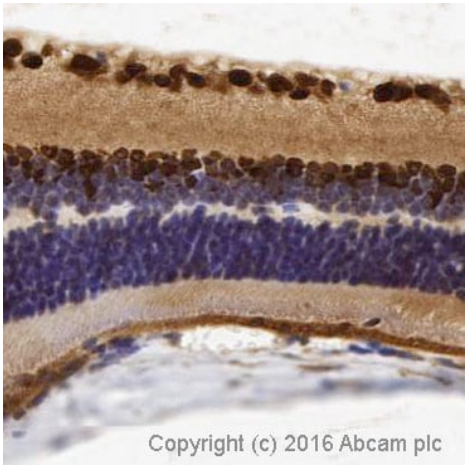
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX6 antibody [EPR3352(2)] - BSA and Azide free (ab238149)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human retina tissue sections labeling PAX6 with Purified **ab109233** at 1:2000 dilution (0.52 µg/ml). Heat mediated antigen retrieval was performed using **ab93684** (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use)was used. Negative control:PBS instead of the primary antibody. Hematoxylin was used as a counterstain. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109233**).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX6 antibody [EPR3352(2)] - BSA and Azide free (ab238149)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human pancreas tissue sections labeling PAX6 with Purified **ab109233** at 1:2000 dilution (0.52 µg/ml). Heat mediated antigen retrieval was performed using **ab93684** (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use). Negative control:PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109233**).

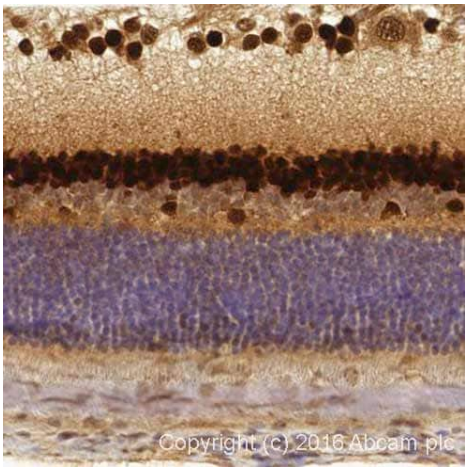


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX6 antibody [EPR3352(2)] - BSA and Azide free (ab238149)

IHC image of Pax6 staining in normal mouse retina formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with **ab109233**, 1µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109233**).

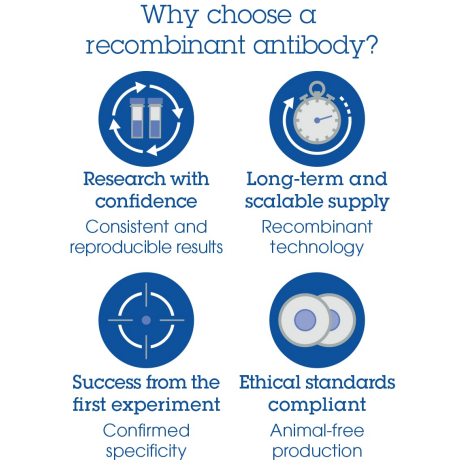


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PAX6 antibody [EPR3352(2)] - BSA and Azide free (ab238149)

IHC image of Pax6 staining in normal rat retina formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with **ab109233**, 1µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109233**).



Anti-PAX6 antibody [EPR3352(2)] - BSA and Azide free (ab238149)

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you

- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors