abcam

Product datasheet

Anti-Olig2 antibody [EPR2673] - BSA and Azide free ab220796

Recombinant RabMAb

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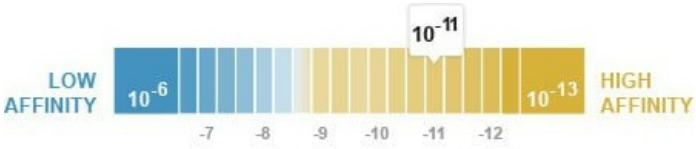
Overview

Product name	Anti-Olig2 antibody [EPR2673] - BSA and Azide free
Description	Rabbit monoclonal [EPR2673] to Olig2 - BSA and Azide free
Host species	Rabbit
Tested applications	**Suitable for:** ICC/IF, WB, IHC-P, Mass Cytometry
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Oligodendroglioma lysate, human glioma tissue. IMC: Human glioblastoma brain cancer tissue; ICC/IF: Rat primary glia cells. Primary mouse neurons/glia, DIV14 cells. IHC-P: Rat and human cerebral cortex tissue; Human glioma tissue.
General notes	ab220796 is the carrier-free version of **ab109186**. 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.
Dissociation constant (K_D)	$K_D = 1.50 \times 10^{-11}$ M



Learn more about K_D

Storage buffer	pH: 7.20 Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR2673
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab220796 in the following tested applications.

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

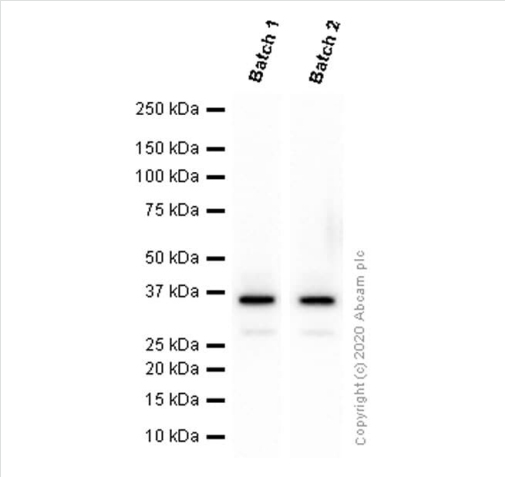
Application	Abreviews	Notes
ICC/IF		Use at an assay dependent concentration.
WB		Use at an assay dependent concentration. Predicted molecular weight: 32 kDa.
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
Mass Cytometry		Use at an assay dependent concentration.

Target

Function	Required for oligodendrocyte and motor neuron specification in the spinal cord, as well as for the development of somatic motor neurons in the hindbrain. Cooperates with OLIG1 to establish the pMN domain of the embryonic neural tube. Antagonist of V2 interneuron and of NKX2-2-induced V3 interneuron development.
Tissue specificity	Expressed in the brain, in oligodendrocytes. Strongly expressed in oligodendrogliomas, while expression is weak to moderate in astrocytomas. Expression in glioblastomas highly variable.

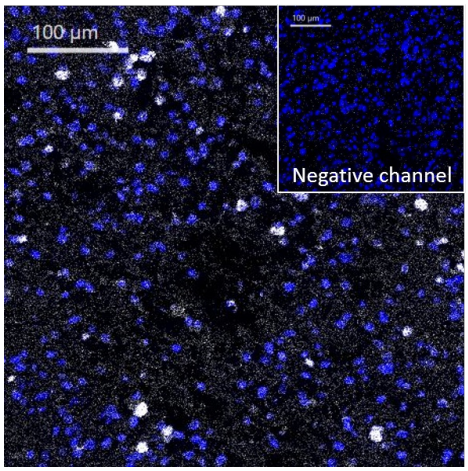
Involvement in disease	Note=A chromosomal aberration involving OLIG2 may be a cause of a form of T-cell acute lymphoblastic leukemia (T-ALL). Translocation t(14;21)(q11.2;q22) with TCRA.
Sequence similarities	Contains 1 basic helix-loop-helix (bHLH) domain.
Domain	The bHLH is essential for interaction with NKX2-2.
Cellular localization	Nucleus. Cytoplasm. The NLS contained in the bHLH domain could be masked in the native form and translocation to the nucleus could be mediated by interaction either with class E bHLH partner protein or with NKX2-2.

Images



Western blot - Anti-Olig2 antibody [EPR2673] - BSA and Azide free (ab220796)

This data was developed using **ab109186**, the same antibody clone in a different buffer formulation. Different batches of **ab109186** were tested on Mouse brain lysate at 0.1 µg/ml. 15 µg of lysate was loaded in each lane. Bands observed at 32 kDa.

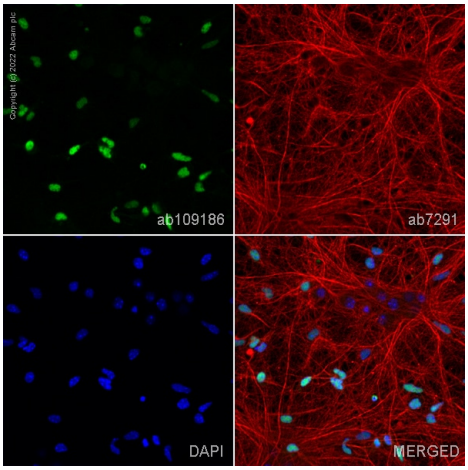


Mass Cytometry - Anti-Olig2 antibody [EPR2673] - BSA and Azide free (ab220796)

This image is courtesy of the Single Cell & Imaging Mass Cytometry Analysis Platform, Goodman Cancer Research Centre, McGill University

Imaging Mass Cytometry™ (IMC™) image of human glioblastoma brain cancer tissue stained with Anti-Olig2 antibody [EPR2673]. ab220796 (carrier-free antibody, purified) was metal-conjugated using a Maxpar® Antibody Labeling Kit from Fluidigm. Immunostaining was performed according to Fluidigm's protocols. Briefly, slides were subject to deparaffinization and heat-induced epitope retrieval, followed by overnight incubation at 4°C with an antibody cocktail containing metal-tagged antibodies in blocking buffer. Slides were subsequently washed with 0.2% Triton-X and 1x PBS, counterstained with Cell-ID™ Intercalator-Ir diluted at 1/400 in 1x PBS for 30 min at room temperature, rinsed for 5 min with distilled H2O, and air-dried prior to IMC™ acquisition. IMC™ acquisition was performed using the Fluidigm Hyperion™ Imaging System.

Imaging Mass Cytometry™, IMC™, Cell-ID™, Hyperion™ and Maxpar® are trademarks of Fluidigm Canada

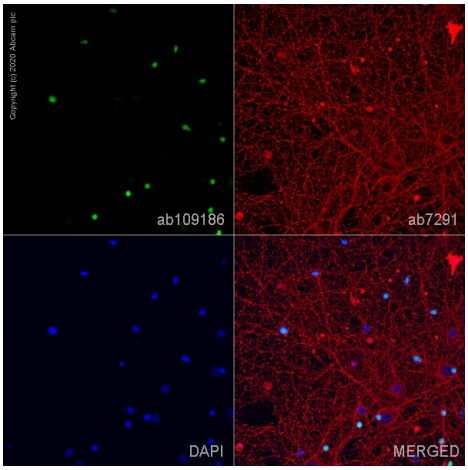


Immunocytochemistry/ Immunofluorescence - Anti-Olig2 antibody [EPR2673] - BSA and Azide free (ab220796)

This data was developed using the same antibody clone in a different buffer formulation containing PBS and sodium azide (**ab109186**).

ab109186 staining Olig2 in primary mouse neurons/glia, DIV14 (prepared from E18 mouse hippocampal brain area, obtained from Transnetyx Tissue by BrainBits, LLC, cat.no. C57EHP) cells. The cells were fixed with 100% methanol (5 min), permeabilized with 0.1% PBS-Tween for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at 4°C with **ab109186** at 5µg/ml and **ab7291**, Mouse monoclonal [DM1A] to alpha Tubulin - Loading Control. Cells were then incubated with **ab150081**, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 488), pre-adsorbed at 1/1000 dilution (shown in green) and **ab150120**, Goat polyclonal Secondary Antibody to Mouse IgG - H&L (Alexa Fluor® 594), pre-adsorbed at 1/1000 dilution (shown in pseudocolour red). Nuclear DNA was labelled with DAPI (shown in blue).

Image was acquired with a confocal microscope (Leica-Microsystems TCS SP8) and a single confocal section is shown.



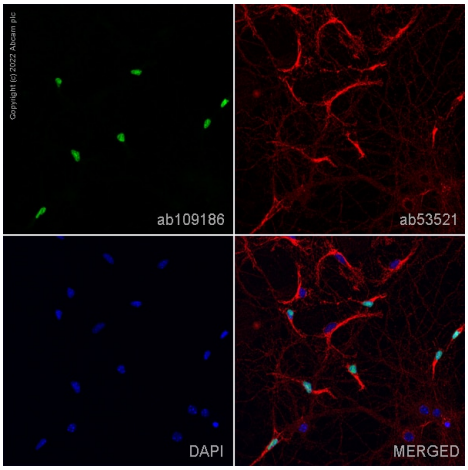
Immunocytochemistry/ Immunofluorescence - Anti-Olig2 antibody [EPR2673] - BSA and Azide free (ab220796)

This data was developed using the same antibody clone in a different buffer formulation containing PBS and sodium azide (**ab109186**)

ab109186 staining Olig2 in primary hippocampal rat neurons/glia, (obtained from Neuromics, cat. no. PC35101), DIV14. The cells were fixed with 4% paraformaldehyde (10 min), permeabilized with 0.1% PBS-Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at 4°C with **ab109186** at 1?g/ml and **ab7291**, Mouse monoclonal [DM1A] to alpha Tubulin - Loading Control. Cells were then incubated with **ab150081**, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 488), pre-adsorbed at 1/1000 dilution (shown in green) and **ab150120**, Goat polyclonal Secondary Antibody to Mouse IgG - H&L (Alexa Fluor® 594), pre-adsorbed at 1/1000 dilution (shown in pseudocolour red). Nuclear DNA was labelled with DAPI (shown in blue).

Also suitable in cells fixed with 100% methanol (5 min).

Image was acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.



Immunocytochemistry/ Immunofluorescence - Anti-Olig2 antibody [EPR2673] - BSA and Azide free (ab220796)

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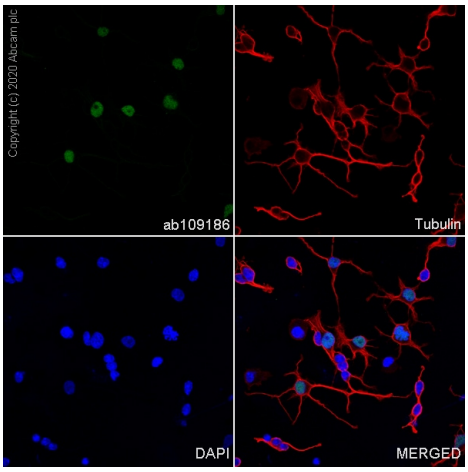
ab109186 staining Olig2 in primary mouse neurons/glia, DIV14 (prepared from E18 mouse hippocampal brain area, obtained from Transnetyx Tissue by BrainBits, LLC, cat.no. C57EHP) cells. The cells were fixed with 4% paraformaldehyde (10 min), permeabilized with 0.1% PBS-Tween for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at 4°C with **ab109186** at 1µg/ml and **ab53521**, Mouse mono Anti-A2B5 antibody [105]. Cells were then incubated with **ab150081**, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 488), pre-adsorbed at 1/1000 dilution (shown in green) and **ab175702**, Goat Anti-Mouse IgM mu chain (Alexa Fluor® 568) at 1/1000 dilution (shown in pseudocolour red). Nuclear DNA was labelled with DAPI (shown in blue).

Also suitable in cells fixed with 100% methanol (5 min).

Image was acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.

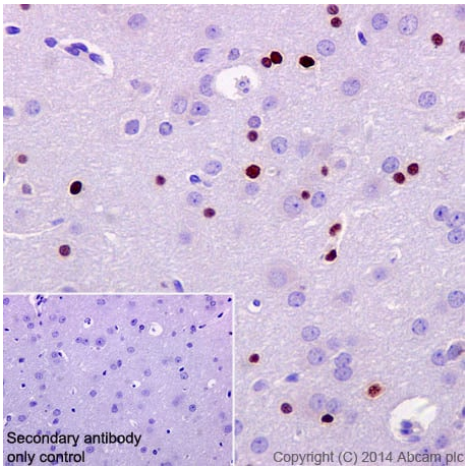


Immunocytochemistry/ Immunofluorescence - Anti-Olig2 antibody [EPR2673] - BSA and Azide free (ab220796)

This data was developed using **ab109186**, the same antibody clone in a different buffer formulation.

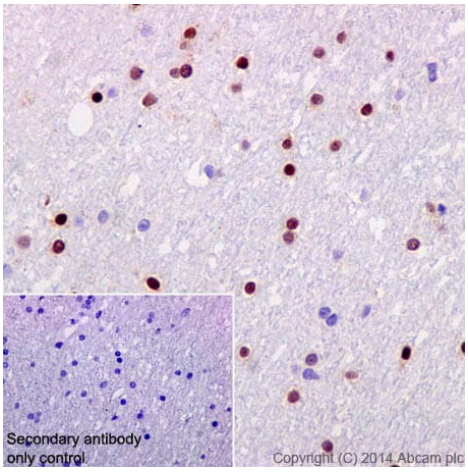
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized rat primary glia cell cells labelling Olig2 with **ab109186** at 1/100 (1.23 µg/mL) dilution, followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (2 µg/mL) (Green). Confocal image showing nuclear staining in rat primary glia cell. Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection. **ab195889** Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (2.5 µg/mL) (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (2 µg/mL).



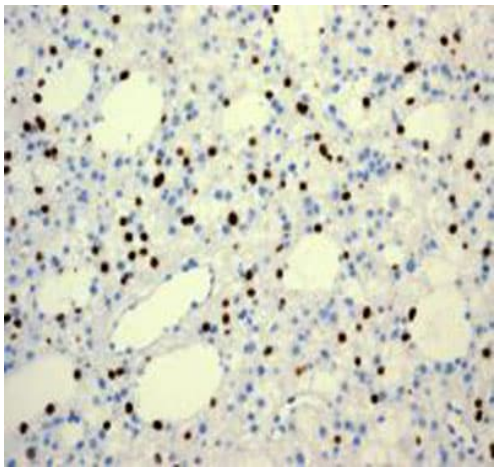
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Olig2 antibody [EPR2673] - BSA and Azide free (ab220796)

Immunohistochemical staining of paraffin embedded rat cerebral cortex with purified **ab109186** at a working dilution of 1/100. The secondary antibody used is **ab97051**, a HRP-conjugated goat anti-rabbit IgG (H+L), at a dilution of 1/500. The sample is counter-stained with hematoxylin. Antigen retrieval was perfomed using Tris-EDTA buffer, pH 9.0. PBS was used instead of the primary antibody as the negative control, and is shown in the inset.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109186**).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Olig2 antibody [EPR2673] - BSA and Azide free (ab220796)

Immunohistochemical staining of paraffin embedded human cerebral cortex with purified **ab109186** at a working dilution of 1/100. The secondary antibody used is **ab97051**, a HRP-conjugated goat anti-rabbit IgG (H+L), at a dilution of 1/500. The sample is counter-stained with hematoxylin. Antigen retrieval was perfomed using Tris-EDTA buffer, pH 9.0. PBS was used instead of the primary antibody as the negative control, and is shown in the inset.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109186**).

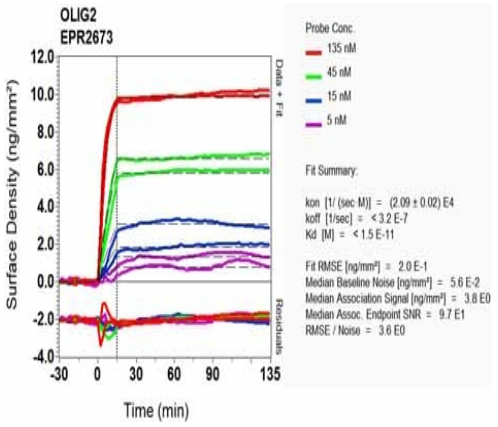


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Olig2 antibody [EPR2673] - BSA and Azide free (ab220796)

Immunohistochemical staining of Olig2 in human glioma tissue with **ab109186** at a dilution of 1/100.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109186**).

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



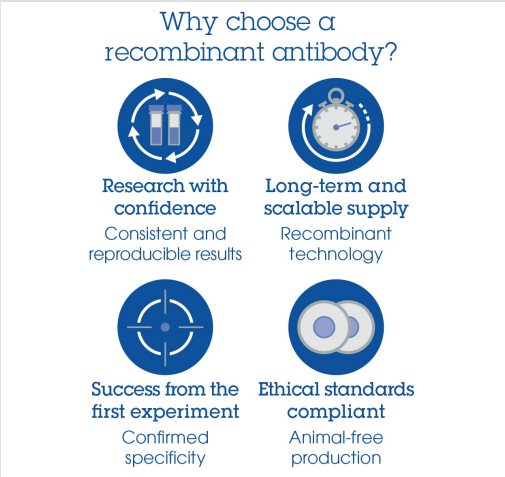
OI-RD Scanning - Anti-Olig2 antibody [EPR2673] - BSA and Azide free (ab220796)

Equilibrium disassociation constant (K_D)

Learn more about K_D

Click here to learn more about K_D

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109186**).



Anti-Olig2 antibody [EPR2673] - BSA and Azide free (ab220796)

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