abcam

Product datasheet

Anti-Olig2 antibody [EPR2673] ab109186

Recombinant RabMAb

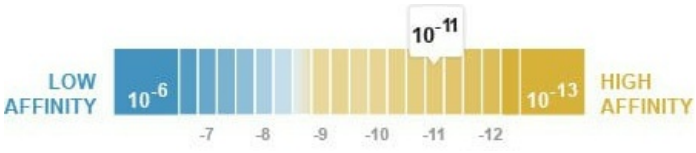
★★★★★ 22 Abreviews 132 References 14 Images

Overview

Product name	Anti-Olig2 antibody [EPR2673]
Description	Rabbit monoclonal [EPR2673] to Olig2
Host species	Rabbit
Tested applications	**Suitable for:** ICC/IF, WB, IHC-P
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 fetal brain lysate, mouse and rat brain lysate IHC-P: Rat and human cerebral cortex tissue; Human glioma tissue. ICC/IF: Rat primary glia cells. Primary mouse neurons/glia, DIV14 cells.
General notes	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 short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Stable for 12 months at -20°C.
Dissociation constant (K_D)	$K_D = 1.50 \times 10^{-11}$ M



Learn more about K_D

Storage buffer	pH: 7.20

	Preservative: 0.01% Sodium azide Constituents: 40% Glycerol, 59% PBS, 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR2673
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab109186 in the following tested applications.

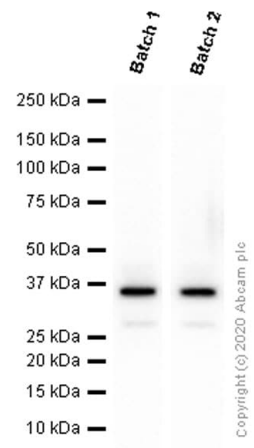
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF	★★★★☆ (1)	Use a concentration of 1 - 5 µg/ml.
WB	★★★★★ (3)	1/2000. Predicted molecular weight: 32 kDa.
IHC-P	★★★★★ (6)	1/100. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Target

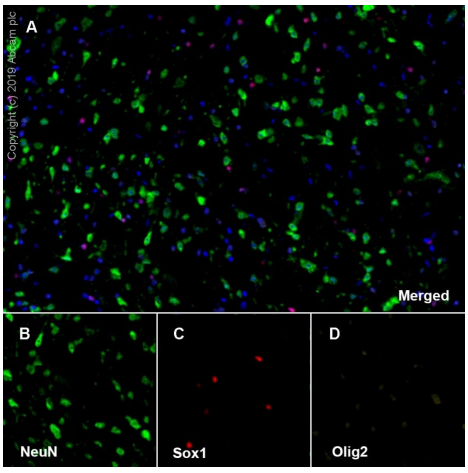
Function	Required for oligodendrocyte and motor neuron specification in the spinal cord, as well as for the development of somatic motor neurons in the hindbrain. Cooperates with OLIG1 to establish the pMN domain of the embryonic neural tube. Antagonist of V2 interneuron and of NKX2-2-induced V3 interneuron 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] (ab109186)

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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Olig2 antibody [EPR2673] (ab109186)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Mouse cerebrum tissue labelling NeuN with **ab177487** at 1/100 dilution (B), SOX1 with **ab242125** at 1/100 dilution (C) and Olig2 with ab109186 at 1/100 dilution (D). Anti-Rabbit and Mouse Polymer HRP was used as a secondary antibody, and DAPI was used for a nuclear counter stain. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20mins. Heat mediated antigen retrieval (Leica ER2, PH9.0, 20 minutes) was used in between rounds of tyramide signal amplification to remove the antibodies from the previous round, to avoid any cross-reactivity.

Panel A: merged staining of anti- NeuN (green, Opal™520), anti-SOX1 (red, Opal™570) and anti- Olig2 (yellow, Opal™690).

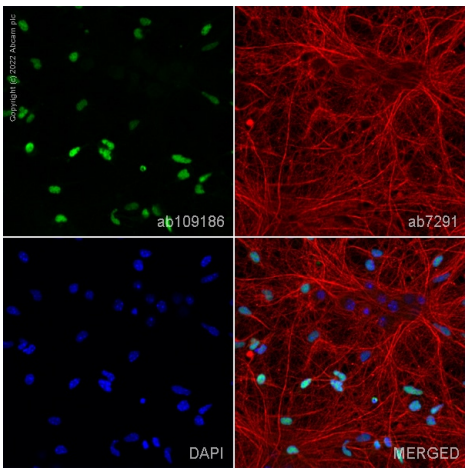
Panel B: anti-NeuN stands for neurons.

Panel C: anti-SOX1 stained on neural progenitors.

Panel D: anti-Olig2 stained on oligodendrocyte.

The section was incubated in three rounds of staining: in the order of **ab177487**, **ab242125** and ab109186 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

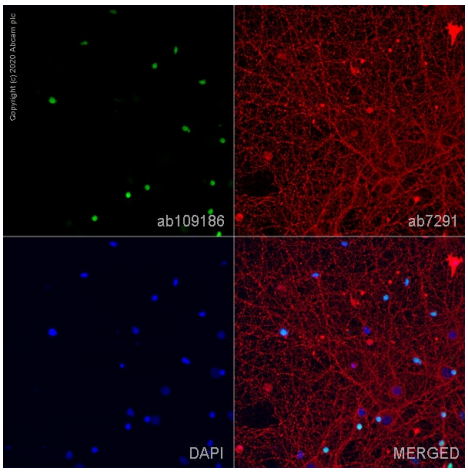
The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope



Immunocytochemistry/ Immunofluorescence - Anti-Olig2 antibody [EPR2673] (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.

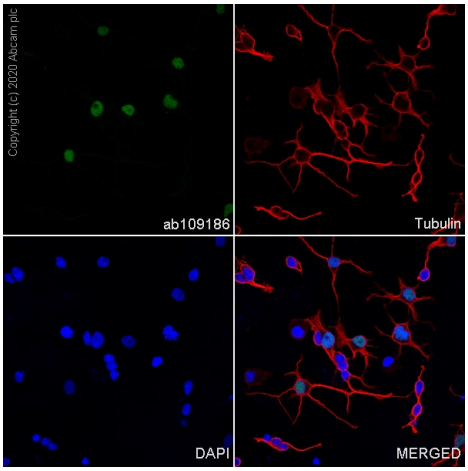


Immunocytochemistry/ Immunofluorescence - Anti-Olig2 antibody [EPR2673] (ab109186)

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 1µg/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).

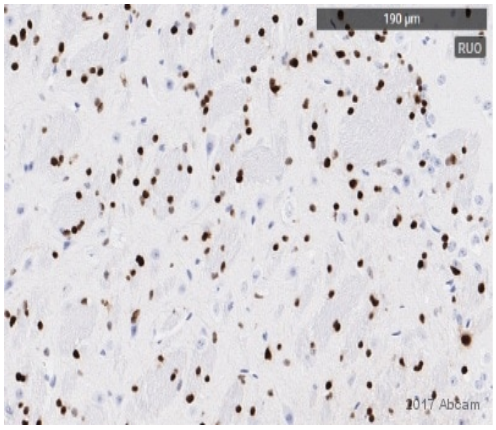
Image was acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.



Immunocytochemistry/ Immunofluorescence - Anti-Olig2 antibody [EPR2673] (ab109186)

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).

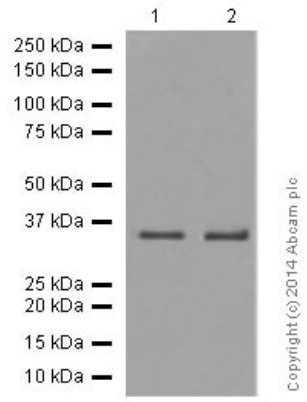


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Olig2 antibody [EPR2673] (ab109186)

This image was courtesy of an annoymous Abreview

Formaldehyde-fixed mouse brain tissue stained for Olig2 using ab109186 at 1/100 dilution in immunohistochemical analysis. The secondary antibody was a Horse Radish Peroxidase conjugated Dako Envision Rabbit antibody.

Antigen retrieval: Heat mediated - Buffer/Enzyme Used: pH 9.0 EDTA



Western blot - Anti-Olig2 antibody [EPR2673] (ab109186)

All lanes : Anti-Olig2 antibody [EPR2673] (ab109186) at 1/2000 dilution (purified)

Lane 1 : Mouse brain lysate

Lane 2 : Rat brain lysate

Lysates/proteins at 20 µg per lane.

Secondary

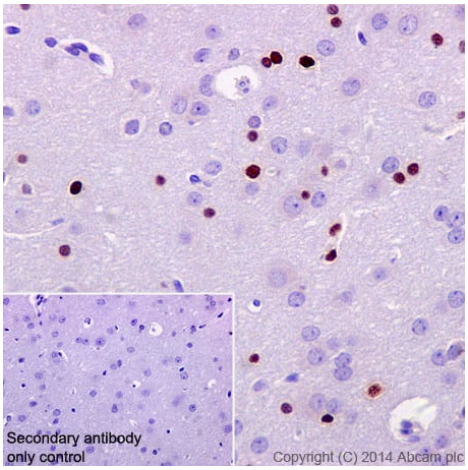
All lanes : HRP goat anti-rabbit (H+L) at 1/1000 dilution

Predicted band size: 32 kDa

Observed band size: 32 kDa

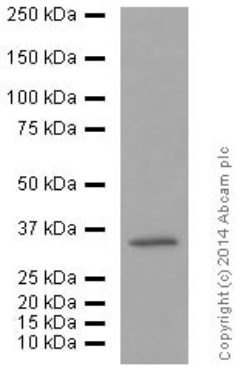
Blocking buffer: 5% NFDM/TBST

Dilution buffer: 5% NFDM/TBST



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Olig2 antibody [EPR2673] (ab109186)

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.



Western blot - Anti-Olig2 antibody [EPR2673] (ab109186)

Anti-Olig2 antibody [EPR2673] (ab109186) at 1/10000 dilution (purified) + Human oligodendroglioma lysate at 10 µg

Secondary

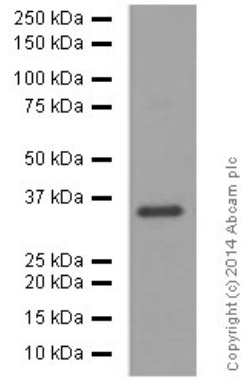
HRP goat anti-rabbit (H+L) at 1/1000 dilution

Predicted band size: 32 kDa

Observed band size: 32 kDa

Blocking buffer: 5% NFDM/TBST

Dilution buffer: 5% NFDM/TBST



Western blot - Anti-Olig2 antibody [EPR2673] (ab109186)

Anti-Olig2 antibody [EPR2673] (ab109186) at 1/2000 dilution (purified) + Human fetal brain tissue lysate at 20 µg

Secondary

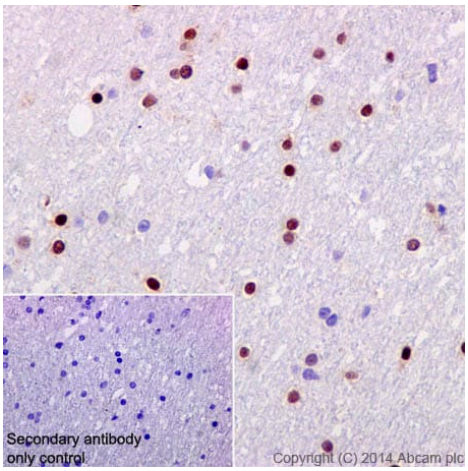
HRP goat anti-rabbit (H+L) at 1/1000 dilution

Predicted band size: 32 kDa

Observed band size: 32 kDa

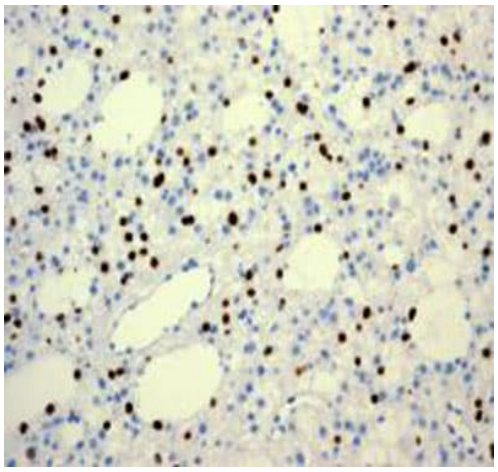
Blocking buffer: 5% NFDM/TBST

Dilution buffer: 5% NFDM/TBST



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Olig2 antibody [EPR2673] (ab109186)

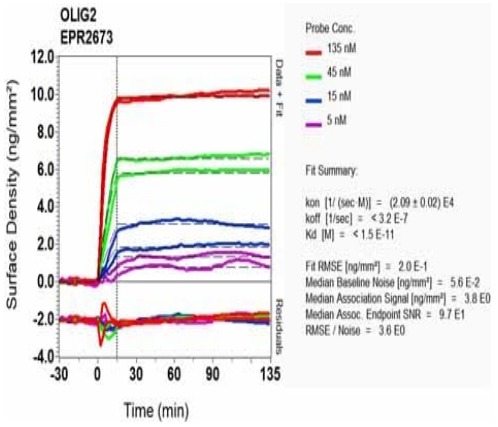
Immunohistochemical staining of paraffin embedded human cerebral cortex with purified ab109186 at a working dilution of 1/100. The secondary antibody used is **ab97051**, a HRP-conjugated goat anti-rabbit IgG (H+L), at a dilution of 1/500. The sample is counter-stained with hematoxylin. Antigen retrieval 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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Olig2 antibody [EPR2673] (ab109186)

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

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

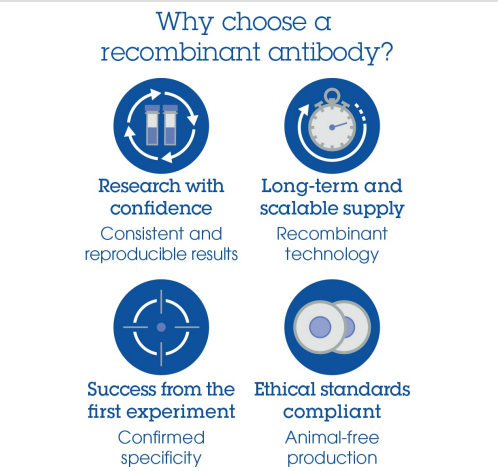


OI-RD Scanning - Anti-Olig2 antibody [EPR2673] (ab109186)

Equilibrium disassociation constant (K_D)

Learn more about K_D

Click here to learn more about K_D



Anti-Olig2 antibody [EPR2673] (ab109186)

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