abcam

ab308261

Anti-Arx antibody [EPR27481-32] - BSA and Azide free

Recombinant | RabMAb | Advanced Validation

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR27481-32
Purification technique	Affinity purification Protein A
Concentration	1.031 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human, Mouse, Rat
Dilution info	-

Notes	-

mIHC

Tested

Species	Human
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse, Rat
Dilution info	-
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Mouse, Rat
Dilution info	-

Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse, Rat
Dilution info	-
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-Fr

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

Target data

See full target information Homeobox protein ARX

Function	Transcription factor (PubMed:22194193, PubMed:31691806). Binds to specific sequence motif 5'-TAATTA-3' in regulatory elements of target genes, such as histone demethylase KDM5C (PubMed:22194193, PubMed:31691806). Positively modulates transcription of KDM5C (PubMed:31691806). Activates expression of

KDM5C synergistically with histone lysine demethylase PHF8 and perhaps in competition with transcription regulator ZNF711; synergy may be related to enrichment of histone H3K4me3 in regulatory elements (PubMed:31691806). Required for normal brain development (PubMed:11889467, PubMed:12379852, PubMed:14722918). Plays a role in neuronal proliferation, interneuronal migration and differentiation in the embryonic forebrain (By similarity). May also be involved in axonal guidance in the floor plate (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
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 batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. 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.

Compatibility
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.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The Arx protein also known as Aristaless related homeobox is a transcription factor encoded by the ARX gene. Its molecular mass is approximately 55 kDa. Arx is mainly expressed in the brain and pancreas where it plays roles in development. The protein contains a homeobox domain which allows it to bind DNA and regulate transcription. In neurons Arx modulates the development and differentiation affecting various neuronal populations.
Biological function summary	Arx influences the development of the central nervous system and pancreatic functions. Arx operates as part of a regulatory network that includes other transcription factors. It coordinates with these factors to manage the expression of genes required for neuronal subtype specification. In the pancreas Arx impacts the fate determination of endocrine cells particularly influencing alpha-cell development over beta-cell development.
Pathways	Arx is an important player in both the neuronal differentiation and endocrine development pathways. It interacts with proteins like Pax4 and Nkx2.2 within these pathways ensuring proper cell-type specification and differentiation. These pathways ensure the formation of diverse neuronal subclasses and appropriate distribution of endocrine cells in the pancreas.
Associated diseases and disorders	Arx is associated with epilepsy and intellectual disability. Mutations in the ARX gene can lead to X-linked intellectual disability and contribute to the development of epilepsy. In both conditions Arx's interaction with proteins such as DCX (Doublecortin) and LIS1 is significant as these proteins are implicated in neuronal migration and cortical development. Hence alterations in Arx function can disrupt these processes leading to neurological disorders.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

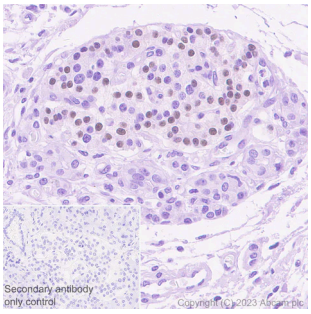
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

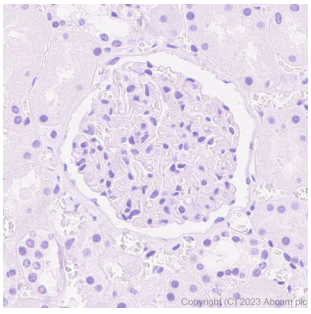
Full details and terms and conditions can be found here:
Terms & Conditions.

13 product images



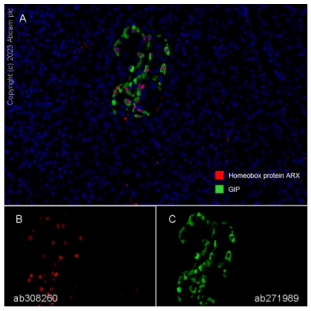
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Arx antibody [EPR27481-32] - BSA and Azide free (ab308261)

This data was produced using ab308260, the same clone but in a different formulation. Immunohistochemical analysis of paraffin-embedded human pancreas tissue labeling Arx with ab308260 at 1/50 dilution (10.35 ug/ml) followed by ready to use Goat Anti-Rabbit IgG H&L (HRP polymer). Positive staining on human pancreas islet (PMID:31263286). The section was incubated with ab308260 at 4°C overnight. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is ready to use Goat Anti-Rabbit IgG H&L (HRP polymer). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Arx antibody [EPR27481-32] - BSA and Azide free (ab308261)

This data was produced using ab308260, the same clone but in a different formulation. Immunohistochemical analysis of paraffin-embedded human kidney tissue labeling Arx with ab308260 at 1/50 dilution (10.35 ug/ml) followed by ready to use Goat Anti-Rabbit IgG H&L (HRP polymer). Negative control: no staining on human kidney (PMID:12359145). The section was incubated with ab308260 at 4°C overnight. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is ready to use Goat Anti-Rabbit IgG H&L (HRP polymer). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0).



Multiplex immunohistochemistry - Anti-Arx antibody [EPR27481-32] - BSA and Azide free (ab308261)

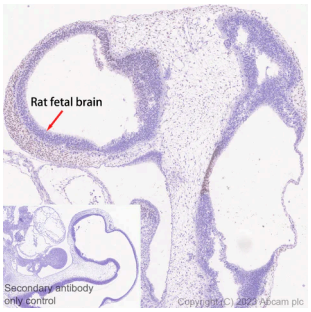
This data was produced using ab308260, the same clone but in a different formulation. Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded human pancreas tissue staining Arx with ab308260 at a 1/50 dilution (10.35 µg/ml) and ab271989 anti-GIP used at a 1/4000 dilution (0.27 µg/ml).

Panel A: merged staining of anti-GIP (green; Opal™520) and anti-Homeobox protein ARX (red; Opal™570) on human pancreas.
Panel B: anti-Homeobox protein ARX stained on alpha cells.
Panel C: anti-GIP stained on alpha cells.

The section was incubated in two rounds of staining: in the order of ab308260 and ab271989 for 30 mins at room temperature.

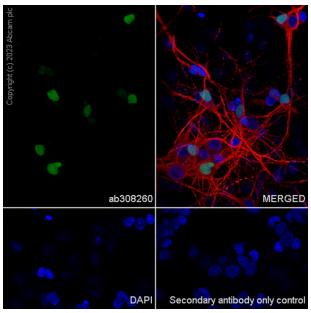
Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins. Each round was followed by a separate fluorescent tyramide signal amplification system.

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-Arx antibody [EPR27481-32] - BSA and Azide free (ab308261)

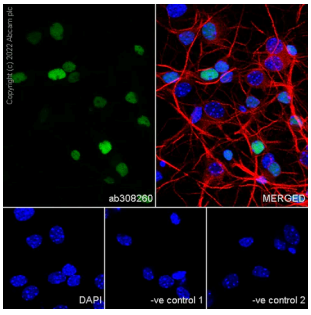
This data was produced using ab308260, the same clone but in a different formulation. Immunohistochemical analysis of paraffin-embedded rat E11.5 brain tissue labeling Arx with ab308260 at 1/50 dilution (10.35 ug/ml) followed by ready to use Goat Anti-Rabbit IgG H&L (HRP polymer). Positive staining on rat E11.5 brain (PMID:11971879). The section was incubated with ab308260 at 4°C overnight. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is ready to use Goat Anti-Rabbit IgG H&L (HRP polymer). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0).



Immunocytochemistry/ Immunofluorescence - Anti-Arx antibody [EPR27481-32] - BSA and Azide free (ab308261)

Arx Immunocytochemistry/ Immunofluorescence staining of rat primary neural/glia cell using rabbit Anti-Arx antibody

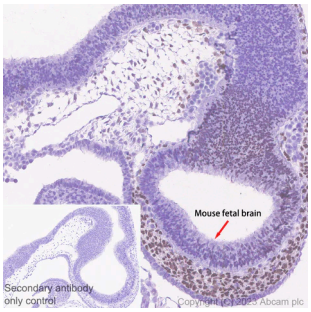
This data was produced using ab308260, the same clone but in a different formulation. Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized rat primary neural/glia cells labelling Arx with ab308260 at 1/100 dilution (5.175 ug/ml) followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (2 ug/ml) (Green). Confocal image showing nuclear staining in rat primary neural/glia cell. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection. ab11267 Anti-MAP2 mouse monoclonal antibody was used to counterstain tubulin at 1/500 dilution (4 ug/ml) followed by ab150120 Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) at 1/1000 dilution (2 ug/ml) (Red). The nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution (2 ug/ml).



Immunocytochemistry/ Immunofluorescence - Anti-Arx antibody [EPR27481-32] - BSA and Azide free (ab308261)

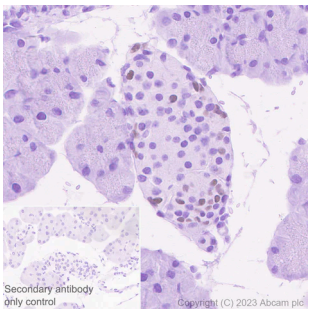
Arx Immunocytochemistry/ Immunofluorescence staining of Mouse primary neural/glia cell using rabbit Anti-Arx antibody

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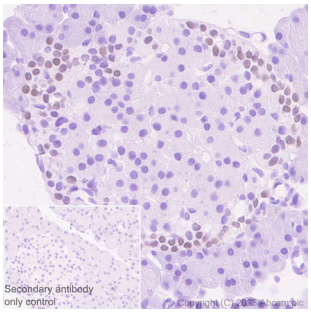
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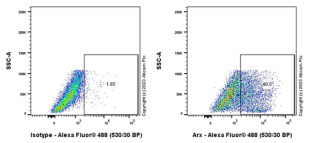
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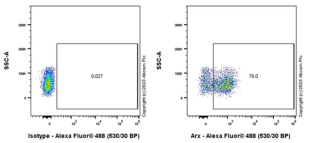
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Arx antibody [EPR27481-32] - BSA and Azide free (ab308261)

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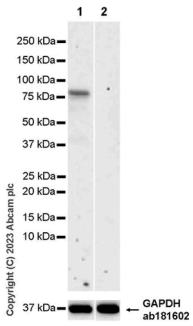
Flow Cytometry (Intracellular) - Anti-Arx antibody [EPR27481-32] - BSA and Azide free (ab308261)

This data was produced using ab308260, the same clone but in a different formulation. Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized mouse primary neuron cells labelling Arx with ab308260 at 1/50 dilution (1ug) (Right panel) compared with a Rabbit monoclonal IgG isotype control (ab172730) (Left panel). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody. Cells were stained with rabbit IgG or ab308260.



Flow Cytometry (Intracellular) - Anti-Arx antibody [EPR27481-32] - BSA and Azide free (ab308261)

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Western blot - Anti-Arx antibody [EPR27481-32] - BSA and Azide free (ab308261)

This data was developed using ab308260, the same antibody clone in a different buffer formulation. Blocking and diluting buffer and concentration: 5% NFDM/TBST Negative control: liver(PMID:12359145). Lysates were freshly made and used for Western blotting immediately to minimize protein degradation. In Western blot, anti-GAPDH antibody (ab181602) loading control staining at 1/200000 dilution. Exposure time:180 seconds
All lanes:
Western blot - Anti-Arx antibody [EPR27481-32] (ab308260) at 1/1000 dilution

Lane 1:
Rat E12.5 brain lysate at 20 µg

Lane 2:
Rat E12.5 liver lysate at 20 µg

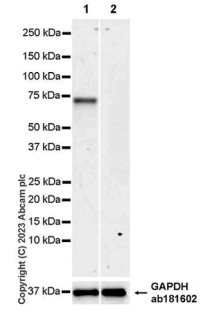
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 58 kDa

Observed band size: 75 kDa

Exposure time: 180s



Western blot - Anti-Arx antibody [EPR27481-32] - BSA and Azide free (ab308261)

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All lanes:
Western blot - Anti-Arx antibody [EPR27481-32] (ab308260) at 1/1000 dilution

Lane 1:
Mouse E12.5 brain lysate at 20 µg

Lane 2:
Mouse E12.5 liver lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 75 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.