abcam

ab308260

Anti-Arx antibody [EPR27481-32]

Anti-Arx antibody [EPR27481-32] (ab308260) is a rabbit monoclonal antibody detecting Arx in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF, mIHC**. Suitable for **Human, Mouse, Rat**.

- Multiplex IHC validated on the Leica BOND® MAX using Opal reagents
- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | Advanced Validation | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR27481-32
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/50
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	1/50
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/50
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

mIHC

Tested

Species	Human
Dilution info	1/50
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. 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
Dilution info	1/1000

Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Expected

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

ICC/IF

Tested

Species	Mouse
Dilution info	1/100
Notes	-

Species	Rat
Dilution info	1/100
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/50

Notes	-

Species	Rat
Dilution info	1/50
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	Conditional Ambient

Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-Arx antibody [EPR27481-32] (ab308260) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF), Multiplex IHC (mIHC) in Human, Mouse, Rat samples.

What is the molecular weight of Arx?
Anti-Arx [EPR27481-32] (ab308260) specifically detects a band for Arx (UniProt: Q96QS3) at a molecular weight of 58kDa.

Other related products
We have a range of other formats of antibody clone [EPR27481-32] also available for your convenience: ab308260, Carrier free - ab308261

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

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

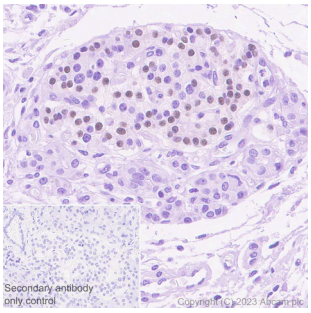
We do not recommend this combination. It is not covered by our product promise.

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.

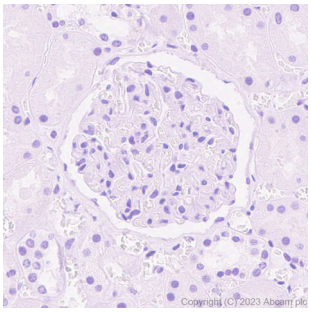
Full details and terms and conditions can be found here:
Terms & Conditions.

13 product images



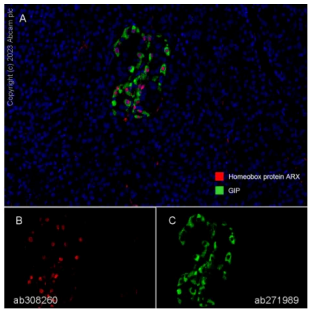
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Arx antibody [EPR27481-32] (ab308260)

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] (ab308260)

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).



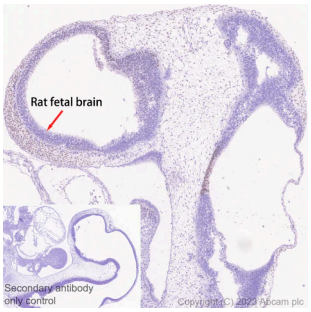
Multiplex immunohistochemistry - Anti-Arx antibody [EPR27481-32] (ab308260)

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.

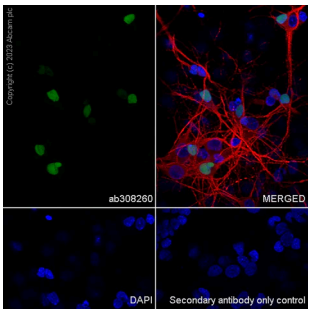
Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins. Each round was followed by a separate fluorescent tyramide signal amplification system.

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] (ab308260)

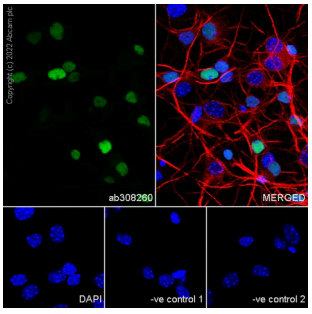
Immunohistochemical analysis of paraffin-embedded rat E11.5 brain tissue labeling Arx with ab308260 at 1/50 dilution (10.35 ug/ml) followed by ready to use Goat Anti-Rabbit IgG H&L (HRP polymer). Positive staining on rat E11.5 brain (PMID:11971879). The section was incubated with ab308260 at 4°C overnight. 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] (ab308260)

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

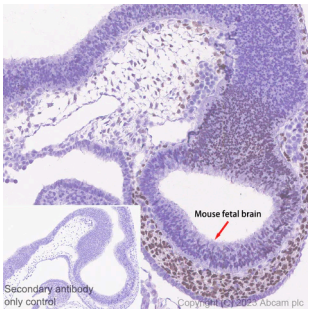
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized rat primary neural/glia cells labelling Arx with ab308260 at 1/100 dilution (5.175 ug/ml) followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (2 ug/ml) (Green). 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] (ab308260)

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

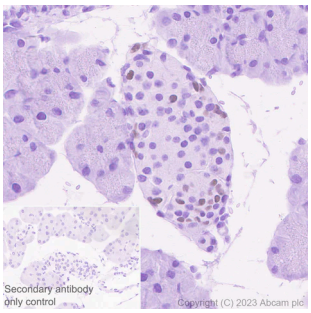
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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Arx antibody [EPR27481-32] (ab308260)

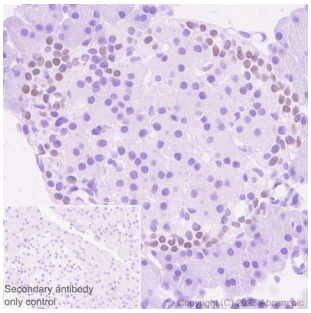
Immunohistochemical analysis of paraffin-embedded mouse E10.5 brain tissue labeling Arx with ab308260 at 1/50 dilution (10.35 ug/ml) followed by ready to use Goat Anti-Rabbit IgG H&L (HRP polymer). Positive staining on mouse E10.5 brain (PMID:11971879). The section was incubated with ab308260 at 4°C 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).



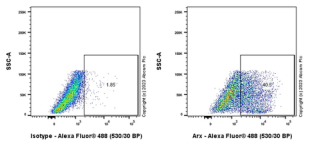
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Arx antibody [EPR27481-32] (ab308260)

Immunohistochemical analysis of paraffin-embedded mouse 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 mouse pancreas islet. 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).



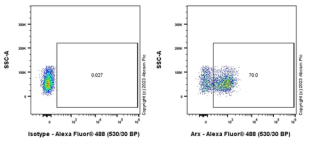
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Arx antibody [EPR27481-32] (ab308260)

Immunohistochemical analysis of paraffin-embedded rat 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 rat pancreas islet. 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).



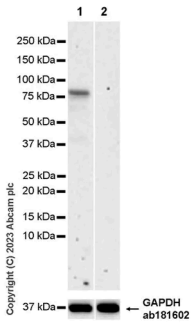
Flow Cytometry (Intracellular) - Anti-Arx antibody [EPR27481-32] (ab308260)

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] (ab308260)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized rat 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.



Western blot - Anti-Arx antibody [EPR27481-32] (ab308260)

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

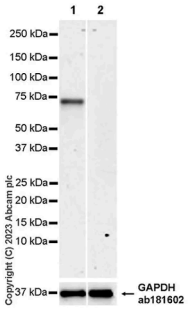
Secondary

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] (ab308260)

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:
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'.