abcam

ab315812

Anti-MATH2/NEUROD6 antibody [EPR28660-23]

Recombinant | RabMAb | 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	EPR28660-23
Purification technique	Affinity purification Protein A
Concentration	0.533 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1/4000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/4000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Transfected cell line - Mouse
Dilution info	1/4000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Human, Transfected cell lysate - Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Transfected cell lysate - Mouse
Dilution info	1/1000
Notes	-

Not recommended

Species	Human, Transfected cell line - Mouse
Dilution info	-

Notes	-

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Expected

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

Not recommended

Species	Human, Transfected cell line - Mouse, Transfected cell lysate - Mouse
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Species	Rat
Dilution info	1/50
Notes	-

Not recommended

Species	Human, Transfected cell line - Mouse, Transfected cell lysate - Mouse

Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Expected

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

Not recommended

Species	Human, Transfected cell line - Mouse, Transfected cell lysate - Mouse
Dilution info	-
Notes	-

Target data

See full target information Neurod6

Function	Activates E box-dependent transcription in collaboration with TCF3/E47. May be a trans-acting factor involved in the development and maintenance of the mammalian nervous system. Transactivates the promoter of its own gene.

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

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.

Supplementary info

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

Activity summary	The protein MATH2 also known as NEUROD6 is important for the development and differentiation of neurons. It acts as a transcription factor regulating gene expression. With a molecular weight of approximately 39 kDa MATH2/NEUROD6 is expressed in the central nervous system particularly in the brain. This protein belongs to the basic helix-loop-helix (bHLH) family which are known for binding to specific DNA sequences to modulate transcription.
Biological function summary	MATH2/NEUROD6 plays a critical role in the nervous system. It influences neuronal survival outgrowth and synaptogenesis. Although not part of a larger protein complex it functions closely with other bHLH proteins to promote neurogenesis. Its similarity to NEUROD1 suggests overlap in their biological roles especially in the regulation of development in the nervous system.
Pathways	MATH2/NEUROD6 is key in the neurogenesis pathway facilitating the formation and specialization of neurons. It works alongside proteins such as MAPK which regulate various cellular activities including proliferation differentiation and response to extracellular stimuli. MATH2/NEUROD6 also interacts within the signaling pathways that affect neuronal differentiation aligning with other bHLH proteins for synaptic plasticity.

Associated diseases and disorders	MATH2/NEUROD6 associates with neurodevelopmental disorders. Abnormal expression levels are linked to diseases such as Alzheimer's and Parkinson's due to their role in neuronal survival and plasticity. The protein's connection with NEUROD1 and its involvement in maintaining proper brain function underline its importance in research on neurological diseases.

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

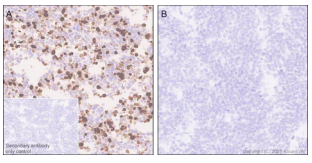
We do not recommend this combination. It is not covered by our product promise.

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.

15 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812)

MATH2/NEUROD6 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MATH2/NEUROD6 antibody

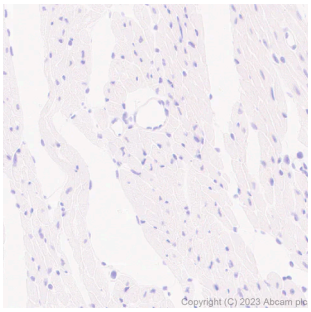
Immunohistochemical analysis of paraffin-embedded (A) HEK-293T (human embryonic kidney epithelial cell) transfected with a mouse NeuroD6 expression vector containing a Myc-His tag. (B) HEK-293T transfected with empty vector containing a Myc-His tag. tissue labeling MATH2/NEUROD6 with ab315812 at 1/4000 (0.133 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on HEK-293T transfected with a Myc-His-tagged mouse NeuroD6 construct (image A). No staining on HEK-293T transfected with empty plasmid (image B). The section was incubated with ab315812 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument.
Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background.

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812)

MATH2/NEUROD6 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse cardiac muscle using rabbit Anti-MATH2/NEUROD6 antibody

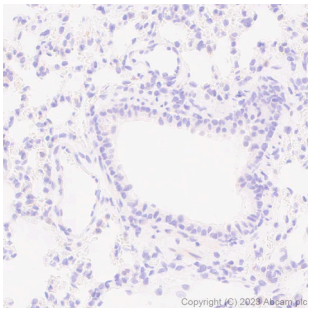
Immunohistochemical analysis of paraffin-embedded Mouse cardiac muscle tissue labeling MATH2/NEUROD6 with ab315812 at 1/4000 (0.133 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Negative control: no staining on mouse cardiac muscle (PMID: 7545978). The section was incubated with ab315812 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument.
Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background.

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812)

MATH2/NEUROD6 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat lung using rabbit Anti-MATH2/NEUROD6 antibody

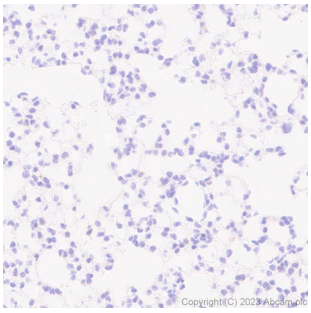
Immunohistochemical analysis of paraffin-embedded Rat lung tissue labeling MATH2/NEUROD6 with ab315812 at 1/4000 (0.133 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Negative control: no staining on rat lung. The section was incubated with ab315812 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument.
Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background.

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812)

MATH2/NEUROD6 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse lung using rabbit Anti-MATH2/NEUROD6 antibody

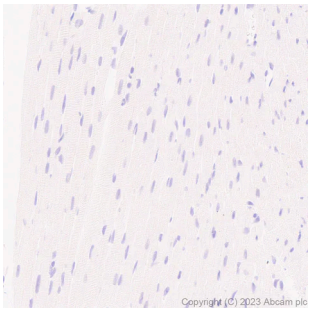
Immunohistochemical analysis of paraffin-embedded Mouse lung tissue labeling MATH2/NEUROD6 with ab315812 at 1/4000 (0.133 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Negative control: no staining on mouse lung (PMID: 7545978). The section was incubated with ab315812 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument.
Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background.

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812)

MATH2/NEUROD6 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat cardiac muscle using rabbit Anti-MATH2/NEUROD6 antibody

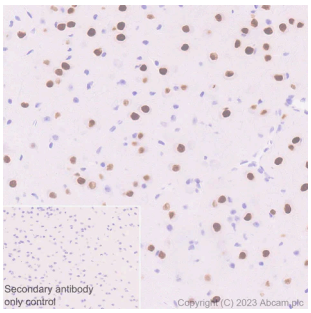
Immunohistochemical analysis of paraffin-embedded Rat cardiac muscle tissue labeling MATH2/NEUROD6 with ab315812 at 1/4000 (0.133 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Negative control: no staining on rat cardiac muscle. The section was incubated with ab315812 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument.
Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background.

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812)

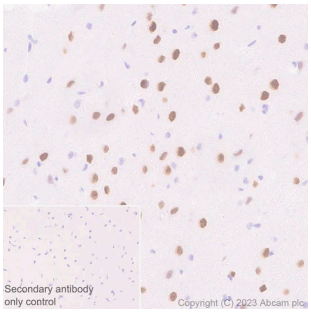
Immunohistochemical analysis of paraffin-embedded Mouse cerebrum tissue labeling MATH2/NEUROD6 with ab315812 at 1/4000 (0.133 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on mouse cerebrum (PMID: 7545978). The section was incubated with ab315812 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument.
Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background.

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812)

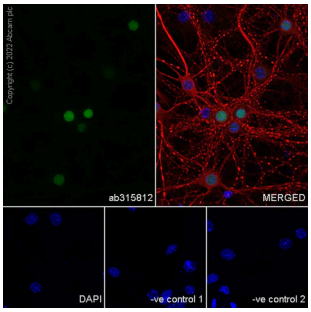
Immunohistochemical analysis of paraffin-embedded Rat cerebrum tissue labeling MATH2/NEUROD6 with ab315812 at 1/4000 (0.133 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on rat cerebrum. The section was incubated with ab315812 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background.

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



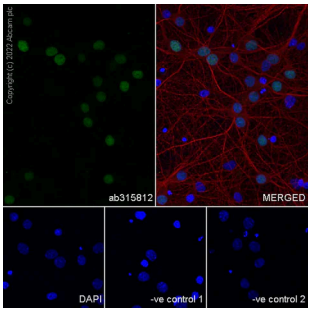
Immunocytochemistry/ Immunofluorescence - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized mouse primary neuron cells labelling MATH2/NEUROD6 with ab315812 at 1/50 (10.66 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/mL) dilution (Green).

Confocal image showing nuclear staining in mouse primary neurons.
Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection.
Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).

ab11267 Anti-MAP2 mouse monoclonal antibody was used to counterstain at 1/500 (4ug/ml) dilution (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 (2 ug/mL) dilution.



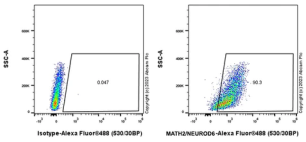
Immunocytochemistry/ Immunofluorescence - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized rat primary neuron cells labelling MATH2/NEUROD6 with ab315812 at 1/50 (10.66 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/mL) dilution (Green).

Confocal image showing nuclear staining in rat primary neuron.
Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection.
Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).

ab11267 Anti-MAP2 mouse monoclonal antibody was used to counterstain at 1/500 (4ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).

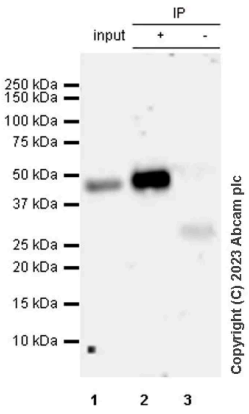
Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/mL) dilution.



Flow Cytometry (Intracellular) - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Mouse primary neuron cells labelling MATH2/NEUROD6 with ab315812 at 1/50 dilution (1 ug)/Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control.

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812)

MATH2/NEUROD6 was immunoprecipitated from 0.35 mg Mouse P5 cerebral cortex tissue lysate with ab315812 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab315812 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP) (ab131366) was used at 1/5000 dilution.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Immunoprecipitation - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812) at 1/1000 dilution

Lane 1:
Mouse P5 cerebral cortex tissue lysate

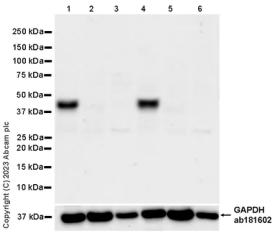
Lane 2:
ab315812 at 1/30 IP in Mouse P5 cerebral cortex tissue lysate

Lane 3:
Rabbit monoclonal IgG (ab172730) instead of ab315812 in Mouse P5 cerebral cortex tissue lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 180s



Western blot - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812)

MATH2/NEUROD6 Western blot staining using rabbit Anti-MATH2/NEUROD6 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Negative control: heart, lung (PMID: 7545978, 7744035)

The identity of the lower MW band at approximately 25 kDa is unknown.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812) at 1/1000 dilution

Lane 1:
Mouse P5 cerebral cortex tissue lysate at 20 µg

Lane 2:
Mouse heart tissue lysate at 20 µg

Lane 3:
Mouse lung tissue lysate at 20 µg

Lane 4:
Rat P5 hippocampus tissue lysate at 20 µg

Lane 5:

Rat heart tissue lysate at 20 µg

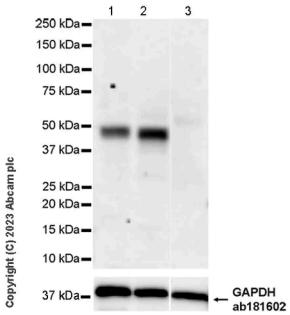
Lane 6:
Rat lung tissue lysate at 20 µg

Secondary

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

Observed band size: 48 kDa, 36 kDa

Exposure time: 59s



Western blot - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812)

MATH2/NEUROD6 Western blot staining using rabbit Anti-MATH2/NEUROD6 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Negative control: kidney (PMID: 7545978, 7744035)

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

All lanes:
Western blot - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812) at 1/1000 dilution

Lane 1:
Rat cerebral cortex tissue lysate at 20 µg

Lane 2:
Rat P5 brain tissue lysate at 20 µg

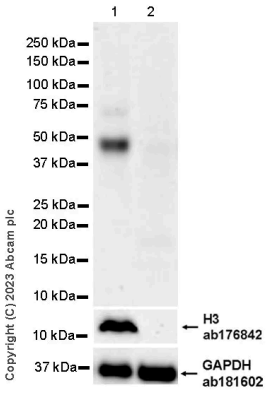
Lane 3:
Rat kidney tissue lysate at 20 µg

Secondary

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

Observed band size: 48 kDa, 36 kDa

Exposure time: 136s



Western blot - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812)

MATH2/NEUROD6 Western blot staining using rabbit Anti-MATH2/NEUROD6 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

Anti-Histone H3 antibody [EPR16987] - Nuclear Marker and ChIP Grade (ab176842) staining at 1/100000 dilution.
All lanes:
Western blot - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812) at 1/1000 dilution

Lane 1:
Mouse brain nuclear fraction at 20 µg

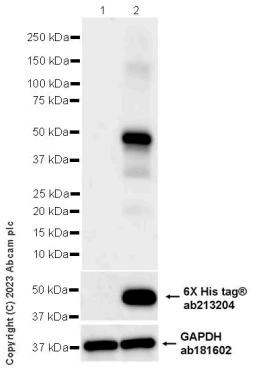
Lane 2:
Mouse brain non-nuclear fraction at 20 µg

Secondary

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

Observed band size: 48 kDa, 36 kDa, 15 kDa

Exposure time: 92s



Western blot - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812)

MATH2/NEUROD6 Western blot staining using rabbit Anti-MATH2/NEUROD6 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

In Western blot, Anti-6X His tag® antibody [EPR20547] - ChIP Grade (ab213204) staining at 1/5000 dilution.

All lanes:
Western blot - Anti-MATH2/NEUROD6 antibody [EPR28660-23] (ab315812) at 1/1000 dilution

Lane 1:
293T cells transfected with an empty vector containing a myc-His-tag®, whole cell lysate at 20 µg

Lane 2:
293T cells transfected with a mouse NEUROD6 expression vector containing a myc-His-tag®, whole cell lysate at 20 µg

Secondary

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

Observed band size: 48 kDa, 36 kDa

Exposure time: 37s

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