abcam

ab203404

Alexa Fluor® 594 Anti-Islet 1 antibody [EP4182] - Neural Stem Cell Marker

Recombinant | RabMAb | Advanced Validation

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 594
Excitation/Emission	Ex: 590nm, Em: 617nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP4182
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

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Expected

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

IHC - Wmt

Tested

Species	Rat
Dilution info	1/500
Notes	-

Expected

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

Predicted

Species	Mouse, Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Expected

Species	Human, Mouse
Dilution info	Use at an assay dependent concentration.

Notes	-

Predicted

Species	Rat, Rat
Dilution info	-
Notes	-

Target data

See full target information ISL1

Function	DNA-binding transcriptional activator. Recognizes and binds to the consensus octamer binding site 5'-ATAATTAA-3' in promoter of target genes. Plays a fundamental role in the gene regulatory network essential for retinal ganglion cell (RGC) differentiation. Cooperates with the transcription factor POU4F2 to achieve maximal levels of expression of RGC target genes and RGC fate specification in the developing retina. Involved in the specification of motor neurons in cooperation with LHX3 and LDB1 (By similarity). Binds to insulin gene enhancer sequences (By similarity). Essential for heart development. Marker of one progenitor cell population that give rise to the outflow tract, right ventricle, a subset of left ventricular cells, and a large number of atrial cells as well, its function is required for these progenitors to contribute to the heart. Controls the expression of FGF and BMP growth factors in this cell population and is required for proliferation and survival of cells within pharyngeal foregut endoderm and adjacent splanchnic mesoderm as well as for migration of cardiac progenitors into the heart (By similarity).

Storage

Shipped at conditions	Blue Ice
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, Store at -80°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.

Supplementary info

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

Activity summary	Islet 1 also known as ISL1 is a LIM-homeodomain transcription factor with a molecular mass of approximately 38 kDa. It plays an important role in regulating gene expression during the development of the nervous system and pancreas. You can find Islet 1 predominantly in motor neurons pancreatic beta cells and cardiac muscle cells. Its expression is important during embryonic stages for cell differentiation and maturation. Researchers use "Isl 1 neuronal marker" antibodies to identify this protein's presence in tissue.
Biological function summary	Islet 1 is involved in the differentiation and survival of various cell types. As part of a transcription complex it regulates downstream target genes essential for the development of motor neurons and cardiac muscle. It also contributes significantly to the developmental pathways of insulin-producing beta cells in the pancreas. The ISL1 marker is therefore an important tool for studying cell lineage and fate in developmental biology.
Pathways	Islet 1 is involved in key developmental signaling pathways including the Notch signaling and Wnt signaling pathways. In these pathways Islet 1 collaborates with other proteins like Lhx3 and Ngn2 to ensure proper gene activation for neuronal and cardiac development. Wnt signaling affects the expression of isl 1 marker genes contributing to precise spatial and temporal regulation during embryogenesis.
Associated diseases and disorders	Islet 1 has links to congenital heart defects and type 2 diabetes. Mutations or altered expression of this protein can disrupt pancreatic beta cell function and motor neuron development. In congenital heart disease the interaction of Islet 1 with proteins like Nkx2.5 is critical. Its role in type 2 diabetes ties with the functioning of other proteins involved in insulin secretion making it a potential target for therapeutic intervention in these conditions.

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.

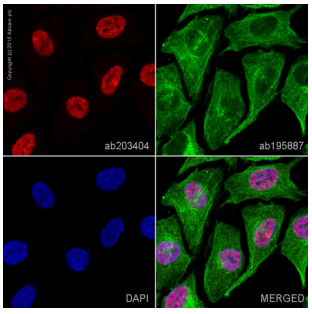
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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

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1 product image



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 594 Anti-Islet 1 antibody [EP4182] - Neural Stem Cell Marker (ab203404)

Islet 1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Islet 1 antibody

ab203404 staining Islet 1 in SKNSH cells. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% 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 ab203404 at 1/100 dilution (shown in red) and ab195887, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 488), at 1/250 dilution (shown in green). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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