abcam

ab275990

Alexa Fluor® 488 Anti-Islet 1 antibody [EP4182] - Neural Stem Cell Marker

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 488
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.2 - 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	1/50
Notes	-

Expected

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

Flow Cyt (Intra)

Expected

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

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.

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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

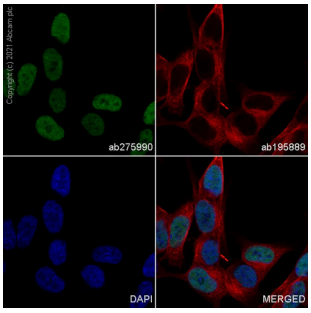
We do not recommend this combination. It is not covered by our product promise.

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.

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

1 product image



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-Islet 1 antibody [EP4182] - Neural Stem Cell Marker (ab275990)

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

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized SH-SY5Y (Human neuroblastoma cell line from bone marrow) cells labeling Islet 1 with ab275990 at 1/50 dilution (green). Tubulin is detected with Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) at 1/200 dilution (ab195889, red). The nuclear counter stain is DAPI (blue).
Confocal image showing localization nuclear staining in SH-SY5Y cells.

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