# Anti-Islet 1 Antibody [SC05-64] - BSA and Azide free HA750211

Product Type:         Recombinant Rabbit monoclonal IgG, primary antibodies           Species reactivity:         Human, Mouse, Rat, Cynomolgus monkey, Pig           Applications:         WB, IF-Cell, IHC-P, FC, IP, IHC-Fr           Molecular Wt:         Predicted band size: 39 kDa           Clone number:         SC05-64           Description:         Islel-1 (ISL1 transcription factor, LIM/homeodomain) and Islel-2 (ISL2 transcription factor, LIM/homeodomain) contain amino-terminal LIM domains and a carboxy-terminal homeodomain and both influence developmental events. Islel-1 influences embryogenesis of the pancreatic islets of Langerhans and neural tube motor neuron differentiation. In developing mouse teeth, Islel-1 mediate patterning of dentition as an activator of Bmp4 expression in incisor (distal) areas of the stomatodeal epithelium. Islet-1 expression defines cardiac progenitor cell populations and is required for normal cardiac development and asymmetry. Isle-2 activity in newly generated motor neurons parmits the diversification of visceral and somatic motor neuron subtypes in the developing spinal cord. Murine Islet-2 specifies retinal ganglion cell (RGC) laterality by repressing an ipsilateral pathfinding program unique to the ventral-temporal crescent (VTC) of RGCs in a Zic2- and EphB1-dependent manner.           Immunogen:         Synthetic peptide within Human Islet 1 aa 262-205 / 349.           Positive control:         SH-SYSY cell lysate, Neuro-2a cell lysate, PC-12 cell lysate, SH-SYSY, Neuro-2a, human pancreas tissue.           Subcellular location:         Nucleus.           Database links:         SwissProt: P61371 Human   P61372 Mouse   P61374 Rat<		
Applications:       WB, IF-Cell, IHC-P, FC, IP, IHC-Fr         Molecular Wt:       Predicted band size: 39 kDa         Clone number:       SC05-64         Description:       Islet-1 (ISL1 transcription factor, LIM/homeodomain) and Islet-2 (ISL2 transcription factor, LIM/homeodomain) and Islet-2 (ISL2 transcription factor, LIM/homeodomain) and both influence developmental events. Islet-1 influences embryogenesis of the pancreatic islets of Langerhans and neural tube motor neuron differentiation. In developing mouse teeth, Islet-1 mediates patterning of dentition as an activator of Bmp4 expression in incisor (dista) areas of the stomatodeal epithelium. Islet-1 expression defines cardiac progenitor cell populations and is required for normal cardiac development and asymmetry. Islet-2 activity in newly generated motor neurons permits the diversification of visceral and somatic motor neuron subtypes in the developing spinal cord. Murine Islet-2 specifies retinal ganglion cell (RGC) laterality by repressing an ipsilateral pathfinding program unique to the ventral-temporal crescent (VTC) of RGCs in a Zic2- and EphB1- dependent manner.         Immunogen:       Synthetic peptide within Human Islet 1 aa 262-205 / 349.         Positive control:       SH-SYSY cell Iysate, Neuro-2a cell Iysate, PC-12 cell Iysate, SH-SYSY, Neuro-2a, human pancreas tissue, mouse embryo tissue, rat pancreas tissue.         Subcellular location:       Nucleus.         Database links:       SwissProt: P61371 Human   P61372 Mouse   P61374 Rat         Recommended Dilutions:       WB         IF-Cell       1:100         IHC-P       1:1,000	Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Molecular Wt:         Predicted band size: 39 kDa           Clone number:         SC05-64           Description:         Islet-1 (ISL1 transcription factor, LIM/homeodomain) and Islet-2 (ISL2 transcription factor, LIM/homeodomain) contain amino-terminal LIM domains and a carboxy-terminal homeodomain and both influence developmental events. Islet-1 influences embryogenesis of the pancreatic islets of Langerhans and neural tube motor neuron differentiation. In developing mouse teeth, Islet-1 mediates patterning of dentition as an activator of Bmp4 expression in incisor (distal) areas of the stomatodeal epithelium. Islet-1 expression defines cardiac progenitor cell populations and is required for normal cardiac development and asymmetry. Islet-2 activity in newly generated motor neurons permits the diversification of visceral and somatic motor neuron subtypes in the developing spinal cord. Murine Islet-2 specifies retinal ganglion cell (RGC) laterality by repressing an ipsilateral pathfinding program unique to the ventral-temporal crescent (VTC) of RGCs in a Zic2- and EphB1-dependent manner.           Immunogen:         Synthetic peptide within Human Islet 1 aa 262-205 / 349.           Positive control:         SH-SY5Y cell lysate, Neuro-2a cell lysate, PC-12 cell lysate, SH-SY5Y, Neuro-2a, human pancreas tissue, mouse embryo tissue, rat pancreas tissue.           Subcellular location:         Nucleus.           Database links:         SwissProt: P61371 Human   P61372 Mouse   P61374 Rat           Recommended Dilutions:         WB         1:2,000         1:100         1:100           IHC-P         1:1,000         P         1:2,9/sample         1:100	Species reactivity:	Human, Mouse, Rat, Cynomolgus monkey, Pig
Clone number:         SC05-64           Description:         Islet-1 (ISL1 transcription factor, LIM/homeodomain) and Islet-2 (ISL2 transcription factor, LIM/homeodomain) contain amino-terminal LIM domains and a carboxy-terminal homeodomain and both influence developmental events. Islet-1 influences embryogenesis of the pancreatic islets of Langerhans and neural tube motor neuron differentiation. In developing mouse teeth, Islet-1 mediates patterning of dentition as an activator of Bmp4 expression in incisor (distal) areas of the stomatodeal epithelium. Islet-1 expression defines cardiac progenitor cell oppulations and is required for normal cardiac development and asymmetry. Islet-2 activity in newly generated motor neuron sprints the diversification of visceral and somatic motor neuron subtypes in the developing spinal cord. Murine Islet-2 specifies retinal ganglion cell (RGC) laterality by repressing an ipsilateral pathfinding program unique to the ventral-temporal crescent (VTC) of RGCs in a Zic2- and EphB1-dependent manner.           Immunogen:         Synthetic peptide within Human Islet 1 aa 262-205 / 349.           Positive control:         SH-SY5Y cell lysate, Neuro-2a cell lysate, PC-12 cell lysate, SH-SY5Y, Neuro-2a, human pancreas tissue, mouse embryo tissue, rat pancreas tissue.           Subcellular location:         Nucleus.           Database links:         SwissProt: P61371 Human   P61372 Mouse   P61374 Rat           Recommended Dilutions:         WB         1:2,000         FC         1:1,000         FC           IP         1:2,0/sample         1:00         1:2,0/sample         1:00         1:00         1:00         1:00	Applications:	WB, IF-Cell, IHC-P, FC, IP, IHC-Fr
Description:       Islet 1 (ISL1 transcription factor, LIM/homeodomain) and Islet-2 (ISL2 transcription factor, LIM/homeodomain) contain amino-terminal LIM domains and a carboxy-terminal homeodomain and both influence developmental events. Islet-1 influences embryogenesis of the pancreatic islets of Langerhans and neural tube motor neuron differentiation. In developing mouse teeth, Islet-1 mediates patterning of dentition as an activator of Bmp4 expression in incisor (distal) areas of the stomatodeal epithelium. Islet-1 expression defines cardiac progenitor cell populations and is required for normal cardiac development and asymmetry. Islet-2 activity in newly generated motor neurons permits the diversification of visceral and somatic motor neuron subtypes in the developing spinal cord. Murine Islet-2 specifies retinal ganglion cell (RGC) laterality by repressing an ipsilateral pathfinding program unique to the ventral-temporal crescent (VTC) of RGCs in a Zic2- and EphB1-dependent manner.         Immunogen:       Synthetic peptide within Human Islet 1 aa 262-205 / 349.         Positive control:       SH-SY5Y cell lysate, Neuro-2a cell lysate, PC-12 cell lysate, SH-SY5Y, Neuro-2a, human pancreas tissue, mouse embryo tissue, rat pancreas tissue.         Subcellular location:       Nucleus.         Database links:       SwissProt: P61371 Human   P61372 Mouse   P61374 Rat         Recommended Dilutions:       WB         IR-CeI       1:1,000         IP       1:2,000         IF-CeII       1:100         IRC-Fr       1:500         Store at +4°C after thawing. Aliquot store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.    <	Molecular Wt:	Predicted band size: 39 kDa
<ul> <li>LIM/homeodomain) contain amino-terminal LIM domains and a carboxy-terminal homeodomain and both influence developmental events. Islet-1 influences embryogenesis of the pancreatic islets of Langerhans and neural tube motor neuron differentiation. In developing mouse teeth, Islet-1 mediates patterning of dentition as an activator of Bmp4 expression in incisor (distal) areas of the stomatodeal epithelium. Islet-1 expression defines cardiac progenitor cell populations and is required for normal cardiac development and asymmetry. Islet-2 activity in newly generated motor neurons permits the diversification of visceral and somatic motor neuron subtypes in the developing spinal cord. Murine Islet-2 specifies retinal ganglion cell (RGC) laterality by repressing an ipsilateral pathfinding program unique to the ventral-temporal crescent (VTC) of RGCs in a Zic2- and EphB1-dependent manner.</li> <li>Immunogen: Synthetic peptide within Human Islet 1 aa 262-205 / 349.</li> <li>Positive control: SH-SY5Y cell lysate, Neuro-2a cell lysate, PC-12 cell lysate, SH-SY5Y, Neuro-2a, human pancreas tissue, mouse embryo tissue, rat pancreas tissue.</li> <li>Subcellular location: Nucleus.</li> <li>Database links: SwissProt: P61371 Human   P61372 Mouse   P61374 Rat</li> <li>Recommended Dilutions:</li> <li>WB 1:2,000</li> <li>IF-Cell 1:1,000</li> <li>IP 1:2µg/sample</li> <li>IHC-Fr 1:500</li> <li>Storage Buffer: PBS (pH7.4).</li> <li>Storage Instruction: Store at +4°C after thawing. Aliquot store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.</li> </ul>	Clone number:	SC05-64
Positive control:SH-SY5Y cell lysate, Neuro-2a cell lysate, PC-12 cell lysate, SH-SY5Y, Neuro-2a, human pancreas tissue, mouse embryo tissue, rat pancreas tissue.Subcellular location:Nucleus.Database links:SwissProt: P61371 Human   P61372 Mouse   P61374 RatRecommended Dilutions:WBWB1:2,000IF-Cell1:100IHC-P1:1,000FC1:1,000IP1-2µg/sampleIHC-Fr1:500Storage Buffer:PBS (pH7.4).Storage Instruction:Store at +4°C after thawing. Aliquot store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.	Description:	LIM/homeodomain) contain amino-terminal LIM domains and a carboxy-terminal homeodomain and both influence developmental events. Islet-1 influences embryogenesis of the pancreatic islets of Langerhans and neural tube motor neuron differentiation. In developing mouse teeth, Islet-1 mediates patterning of dentition as an activator of Bmp4 expression in incisor (distal) areas of the stomatodeal epithelium. Islet-1 expression defines cardiac progenitor cell populations and is required for normal cardiac development and asymmetry. Islet-2 activity in newly generated motor neurons permits the diversification of visceral and somatic motor neuron subtypes in the developing spinal cord. Murine Islet-2 specifies retinal ganglion cell (RGC) laterality by repressing an ipsilateral pathfinding program unique to the ventral-temporal crescent (VTC) of RGCs in a Zic2- and EphB1-
pancreas tissue, mouse embryo tissue, rat pancreas tissue.Subcellular location:Nucleus.Database links:SwissProt: P61371 Human   P61372 Mouse   P61374 RatRecommended Dilutions:WBWB1:2,000IF-Cell1:100IHC-P1:1,000FC1:1,000IP1-2µg/sampleIHC-Fr1:500Storage Buffer:PBS (pH7.4).Storage Instruction:Store at +4°C after thawing. Aliquot store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.	lmmunogen:	Synthetic peptide within Human Islet 1 aa 262-205 / 349.
Database links:SwissProt: P61371 Human   P61372 Mouse   P61374 RatRecommended DilutionsIWB1:2,000IF-Cell1:100IHC-Pn1:1,000FC1:1,000IP1:2µg/sampleIHC-Fr1:500Storage Buffer:PBS (pH7.4).Storage Instructions:Store at +4°C after thawing. Aliquot store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.	Positive control:	
Recommended Dilutions:         N           WB         1:2,000           IF-Cell         1:100           IHC-P         1:1,000           FC         1:1,000           IP         1-2µg/sample           IHC-Fr         1:500           Storage Buffer:         PBS (pH7.4).           Storage Instruction:         Store at +4°C after thawing. Aliquot store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.	Subcellular location:	Nucleus.
WB         1:2,000           IF-Cell         1:100           IHC-P         1:1,000           FC         1:1,000           IP         1-2µg/sample           IHC-Fr         1:500           Storage Buffer:         PBS (pH7.4).           Storage Instruction:         Store at +4°C after thawing. Aliquot store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.	Database links:	SwissProt: P61371 Human   P61372 Mouse   P61374 Rat
<b>Storage Instruction:</b> Store at +4 $^{\circ}$ C after thawing. Aliquot store at -20 $^{\circ}$ C or -80 $^{\circ}$ C. Avoid repeated freeze / thaw cycles.	WB IF-Cell IHC-P FC IP	1:100 1:1,000 1:1,000 1-2µg/sample
<b>Storage Instruction:</b> Store at +4 $^{\circ}$ C after thawing. Aliquot store at -20 $^{\circ}$ C or -80 $^{\circ}$ C. Avoid repeated freeze / thaw cycles.	Storage Buffer:	PBS (pH7.4).
Purity: Protein A affinity purified.	-	Store at +4 $^\circ\!\!\!{\rm C}$ after thawing. Aliquot store at -20 $^\circ\!\!\!{\rm C}$ or -80 $^\circ\!\!\!{\rm C}$ . Avoid repeated freeze / thaw
	Purity:	Protein A affinity purified.

## Hangzhou Huaan Biotechnology Co., Ltd.

Orders:0086-571-88062880

Technical:0086-571-89986345

5 Service mail:support@huabio.cn



11.

#### HA750211 - Page 2

#### Images

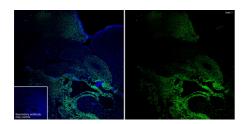


Fig1: Application: IHC-Fr

Species: Mouse

Site: E14.5 embryo

Sample: Frozen section

Antibody concentration: 1:500

Antigen retrieval: The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for about 2 minutes in microwave oven.

Fig2: Application: IHC-Fr

Species: Mouse

Site: E14.5 embryo

Sample: Frozen section

Antibody concentration: 1:500

Antigen retrieval: The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for about 2 minutes in microwave oven.

Fig3: Application: IHC-Fr

Species: Mouse

Site: E14.5 embryo

Sample: Frozen section

Antibody concentration: 1:500

Antigen retrieval: The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for about 2 minutes in microwave oven.

## Hangzhou Huaan Biotechnology Co., Ltd.

Orders:0086-571-88062880

Technical:0086-571-89986345

Service mail:support@huabio.cn



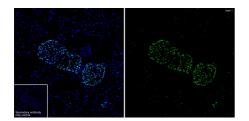


Fig4: Application: IHC-Fr

Species: Mouse

Site: Pancreas

Sample: Frozen section

Antibody concentration: 1:500

Antigen retrieval: The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for about 2 minutes in microwave oven.

**Fig5:** Western blot analysis of Islet 1 on different lysates with Rabbit anti-Islet 1 antibody (HA750211) at 1/2,000 dilution.

Lane 1: SH-SY5Y cell lysate (5 µg/Lane) Lane 2: Neuro-2a cell lysate (30 µg/Lane) Lane 3: PC-12 cell lysate (30 µg/Lane)

Predicted band size: 39 kDa Observed band size: 45 kDa

Exposure time: Lane 1: 10 seconds; Lane 2-3: 1 minute; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA750211) at 1/2,000 dilution was used in 5% NFDM/TBST at  $4^{\circ}$ C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

## Hangzhou Huaan Biotechnology Co., Ltd.

Islet 1

- - GAPDH

45kDa

Orders:0086-571-88062880

250

150-100-75-

55

45

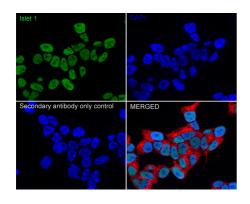
35-25-

14

Technical:0086-571-89986345

Service mail:support@huabio.cn

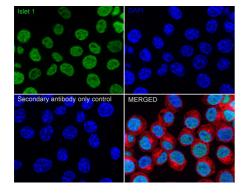




**Fig6:** Immunocytochemistry analysis of SH-SY5Y cells labeling Islet 1 with Rabbit anti-Islet 1 antibody (HA750211) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-Islet 1 antibody (HA750211) at 1/100 dilution in 1% BSA in PBST overnight at 4  $^{\circ}$ C. Goat Anti-Rabbit IgG H&L (iFluor<sup>TM</sup> 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4 °C. Goat Anti-Mouse IgG H&L (iFluor ™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.



**Fig7:** Immunocytochemistry analysis of Neuro-2a cells labeling Islet 1 with Rabbit anti-Islet 1 antibody (HA750211) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-Islet 1 antibody (HA750211) at 1/100 dilution in 1% BSA in PBST overnight at 4  $^{\circ}$ C. Goat Anti-Rabbit IgG H&L (iFluor<sup>TM</sup> 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4 $^{\circ}$ C. Goat Anti-Mouse IgG H&L (iFluor <sup>TM</sup> 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

### Hangzhou Huaan Biotechnology Co., Ltd.

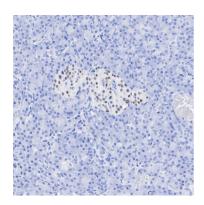


Technical:0086-571-89986345

Service mail:support@huabio.cn

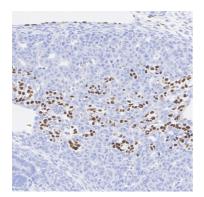


1601111001.0000 JTT 03300343



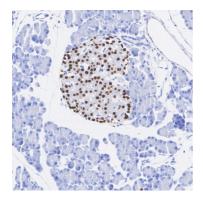
**Fig8:** Immunohistochemical analysis of paraffin-embedded human pancreas tissue with Rabbit anti-Islet 1 antibody (HA750211) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with the primary antibody (HA750211) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.



**Fig9:** Immunohistochemical analysis of paraffin-embedded mouse embryo tissue with Rabbit anti-Islet 1 antibody (HA750211) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with the primary antibody (HA750211) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.



**Fig10:** Immunohistochemical analysis of paraffin-embedded rat pancreas tissue with Rabbit anti-Islet 1 antibody (HA750211) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with the primary antibody (HA750211) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

### Hangzhou Huaan Biotechnology Co., Ltd.

Orders:0086-571-88062880

Technical:0086-571-89986345

Service mail:support@huabio.cn

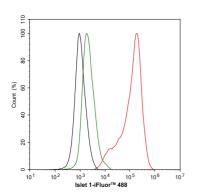


Fig11: Flow cytometric analysis of SH-SY5Y cells labeling Islet 1.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA750211, 1/1,000) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4°C for an hour, the cells were stained with a iFluor<sup>TM</sup> 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4°C. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

#### **Background References**

- 1. Beaudet MJ et al. High yield extraction of pure spinal motor neurons, astrocytes and microglia from single embryo and adult mouse spinal cord. Sci Rep 5:16763 (2015).
- 2. Wrighton PJ et al. Signals from the surface modulate differentiation of human pluripotent stem cells through glycosaminoglycans and integrins. Proc Natl Acad Sci U S A 111:18126-31 (2014).

#### Hangzhou Huaan Biotechnology Co., Ltd.

Orders:0086-571-88062880



Applications:WB=Western blot IHC-P=Immunohistochemistry (paraffin) IF-Celt=Immunofluorescence (Celt) IF-Tissue=Immunofluorescence (Tissue) FC=Flow cytometry IP=Immunoprecipitation

Service mail:support@huabio.cn

Technical:0086-571-89986345