abcam

ab282459

Anti-Insulin antibody [RM1019]

Lab Essentials | 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	Multiclonal
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Clone number	RM1019
Purification technique	Affinity purification Protein A
Specificity	The human recommendation is based on the IHC-P results. We do not guarantee WB for human.
Concentration	0.561 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

I-ELISA

Tested

Species	Recombinant fragment - Human
Dilution info	-

Notes	-

Expected

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

IHC-P

Tested

Species	Mouse
Dilution info	1/10000
Notes	-

Species	Rat
Dilution info	1/10000
Notes	-

Species	Human
Dilution info	1/10000
Notes	-

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/1000

Notes	-

Expected

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

Not recommended

Species	Human, Recombinant fragment - Human
Dilution info	-
Notes	-

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Expected

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

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Not recommended

Species	Human, Recombinant fragment - Human
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Mouse
Dilution info	1/1000
Notes	Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

Species	Rat
Dilution info	1/1000
Notes	Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

Expected

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

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

Target data

See full target information INS

Function	Insulin decreases blood glucose concentration. It increases cell permeability to monosaccharides, amino acids and fatty acids. It accelerates glycolysis, the pentose phosphate cycle, and glycogen synthesis in liver.

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

Notes

What are recombinant multiclonals?
Recombinant multiclonals are a mixture of recombinant antibodies co-expressed from a library of heavy and light chains. They offer several advantages including:

- The sensitivity of polyclonal antibodies by recognising multiple epitopes
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

View our range of recombinant multiclonal antibodies.

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	Insulin a peptide hormone plays an essential mechanical role in carbohydrate and fat metabolism. Insulin alternatively known as bovine insulin in some research contexts has a molecular mass of around 5800 Da. Beta cells in the pancreas express insulin where it gets secreted directly into the bloodstream. The hormone regulates glucose levels by facilitating the uptake of glucose into cells such as muscle and adipose tissues.
Biological function summary	Insulin influences several key metabolic processes by binding to its receptor a component of the insulin receptor substrate family. This triggers a cascade of events within cells promoting the uptake of glucose and converting it into energy. Insulin operates as a singular entity but plays a critical role in forming a complex with its receptor. This interaction triggers downstream effects that alter the activity of enzymes and transcription factors involved in glucose and lipid metabolism.
Pathways	Insulin is critical for the regulation of the PI3K-AKT signaling pathway and the MAPK pathway. These pathways modulate processes such as cell growth proliferation and survival. Insulin interacts closely with other proteins in these

	pathways such as the insulin receptor substrate proteins and influences downstream proteins like AKT kinase which has a significant role in mediating the metabolic effects initiated by insulin binding.
Associated diseases and disorders	Insulin is most notably linked to diabetes mellitus characterized by insufficient insulin production or action. This deficiency disrupts normal glucose homeostasis leading to hyperglycemia. Other associated proteins include glucagon which counteracts insulin's role in lowering blood glucose levels and IRS-1 an important element through which insulin signaling is transduced. Researchers utilize mouse insulin ELISA and insulin ELISA kits to better understand these relationships and develop treatments for insulin-related 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

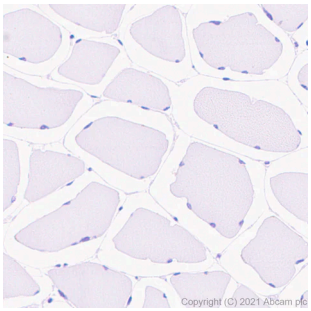
We do not recommend this combination. It is not covered by our product promise.

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.

12 product images



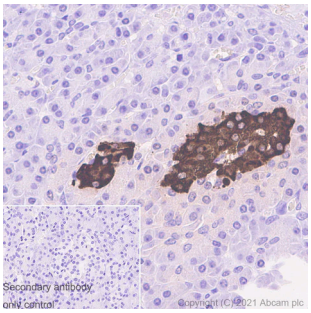
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Insulin antibody [RM1019] (ab282459)

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

Immunohistochemical analysis of paraffin-embedded Human skeletal muscle tissue labeling Insulin with ab282459 at 1/10000 (0.055 ug/ml) followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP polymer). The section was incubated with ab282459 overnight at 4°C. Counterstained with Hematoxylin.
Negative control: no staining in human skeletal muscle.

Secondary antibody only control: Secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP polymer).

Heat mediated antigen retrieval using ab93678 (citrate buffer, pH 6.0).

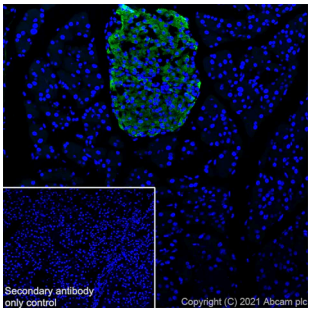


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Insulin antibody [RM1019] (ab282459)

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

Immunohistochemical analysis of paraffin-embedded Human pancreas tissue labelling Insulin with ab282459 at 1/10000 (0.055 ug/ml) followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP polymer). Positive staining on the islets in human pancreas. The section was incubated with ab282459 overnight at 4°C. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP polymer).

Heat mediated antigen retrieval using ab93678 (citrate buffer, pH 6.0).

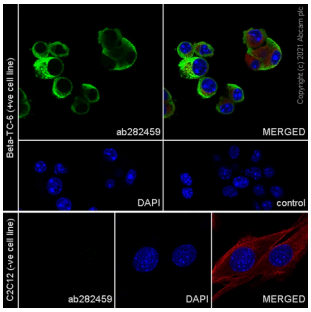


Immunohistochemistry (Frozen sections) - Anti-Insulin antibody [RM1019] (ab282459)

Insulin Immunohistochemistry (Frozen sections) staining using rabbit Anti-Insulin antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse pancreas tissue labeling Insulin with ab282459 at 1/1000 (0.565 ug/ml) dilution followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 (2 ug/ml) dilution (Green). Cytoplasmic staining on mouse pancreas islet is observed. The nuclear counterstain was DAPI (Blue).
Secondary antibody control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 (2 ug/ml) dilution.

Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

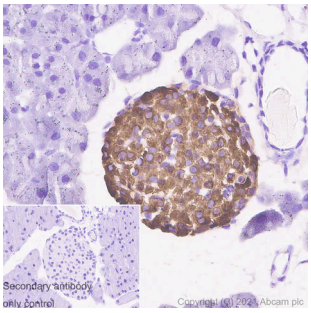


Immunocytochemistry/ Immunofluorescence - Anti-Insulin antibody [RM1019] (ab282459)

Insulin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Insulin antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Beta-TC-6 cells labelling Insulin with ab282459 at 1/1000 (0.551 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 cytoplasmic staining in Beta-TC-6 cells. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 (2.5 ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).
Negative control: C2C12 (PMID: 22973301)

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.

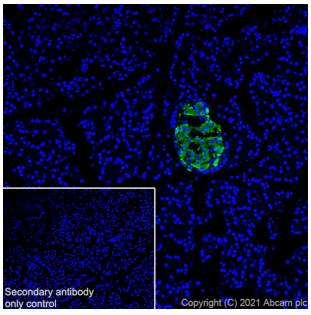


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Insulin antibody [RM1019] (ab282459)

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

Immunohistochemical analysis of paraffin-embedded Mouse pancreas tissue labeling Insulin with ab282459 at 1/10000 (0.055 ug/ml) followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP polymer). Positive staining on the islet in mouse pancreas. The section was incubated with ab282459 overnight at 4°C. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP polymer).

Heat mediated antigen retrieval using ab93678 (citrate buffer, pH 6.0).

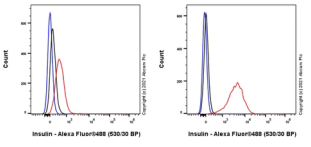


Immunohistochemistry (Frozen sections) - Anti-Insulin antibody [RM1019] (ab282459)

Insulin Immunohistochemistry (Frozen sections) staining using rabbit Anti-Insulin antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Rat pancreas tissue labeling Insulin with ab282459 at 1/1000 (0.551 ug/ml) dilution followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 (2 ug/ml) dilution (Green). Cytoplasmic staining on rat pancreas islet is observed. The nuclear counterstain was DAPI (Blue). Secondary antibody control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488)at 1/1000 (2 ug/ml) dilution.

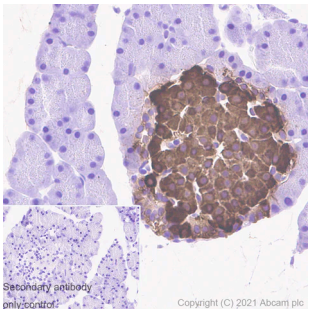
Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).



Flow Cytometry (Intracellular) - Anti-Insulin antibody [RM1019] (ab282459)

Insulin Flow Cytometry (Intracellular) staining using rabbit Anti-Insulin antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized C2C12 (Mouse myoblasts myoblast) (Left) / Beta-TC-6 (Mouse pancreas insulinoma beta cell) (Right) cells labelling Insulin with ab282459 at 1/5000 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat F(ab')2 Anti-Rabbit IgG(DyLight® 488, ab98507) at 1/500 dilution was used as the secondary antibody.
Negative control: C2C12 (PMID: 22973301)

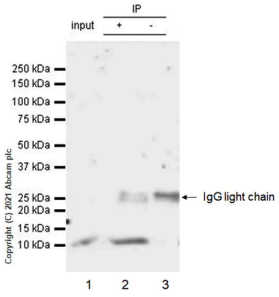


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Insulin antibody [RM1019] (ab282459)

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

Immunohistochemical analysis of paraffin-embedded Rat pancreas tissue labeling Insulin with ab282459 at 1/10000 (0.055 ug/ml) followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP polymer). Positive staining on the islet in rat pancreas. The section was incubated with ab282459 overnight at 4°C. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP polymer).

Heat mediated antigen retrieval using ab93678 (citrate buffer, pH 6.0).



Immunoprecipitation - Anti-Insulin antibody [RM1019] (ab282459)

Insulin was immunoprecipitated from 0.35 mg Mouse pancreas lysate 10 ug with ab282459 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab282459 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.
Lane 1: Mouse pancreas lysate 10 ug

Lane 2: ab282459 IP in Mouse pancreas lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab282459 in Mouse pancreas lysate

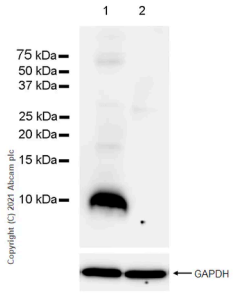
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 3 min.

All lanes:
Immunoprecipitation - Anti-Insulin antibody [RM1019] (ab282459)

Predicted band size: 12 kDa

Observed band size: 12 kDa



Western blot - Anti-Insulin antibody [RM1019] (ab282459)

Insulin Western blot staining using rabbit Anti-Insulin antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
Negative control: C2C12 (PMID: 22973301)

Exposure time: 26 seconds.

All lanes:
Western blot - Anti-Insulin antibody [RM1019] (ab282459) at 1/1000 dilution

Lane 1:
Beta-TC-6 (Mouse pancreas insulinoma beta cell) whole cell lysate at 20 µg

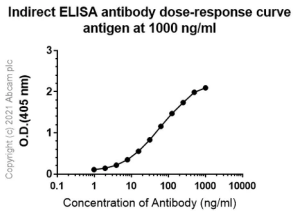
Lane 2:
C2C12 (Mouse myoblasts myoblast) whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/100000 dilution

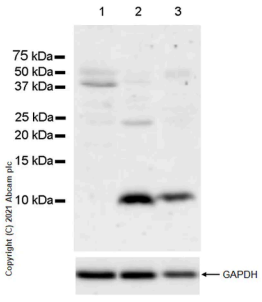
Predicted band size: 12 kDa

Observed band size: 12 kDa



Indirect ELISA - Anti-Insulin antibody [RM1019] (ab282459)

ELISA using ab282459 at varying antibody concentrations and antigen concentration at 1000 ng/ml. An Alkaline Phosphatase-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L) at 1/2500 was used as the secondary antibody.



Western blot - Anti-Insulin antibody [RM1019] (ab282459)

Blocking and diluting buffer and concentration: 5% NFDM/TBST
This blot was developed using a higher sensitivity ECL substrate.

Exposure time: 3 minutes.

All lanes:
Western blot - Anti-Insulin antibody [RM1019] (ab282459) at 1/1000 dilution

Lane 1:
Human pancreas lysate at 20 µg

Lane 2:
Mouse pancreas lysate at 20 µg

Lane 3:
Rat pancreas lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/100000 dilution

Predicted band size: 12 kDa

Observed band size: 12 kDa

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