abcam

ab243141

Anti-Proinsulin antibody [3B6-19-1]

Recombinant

Key facts

Isotype	IgG1
Host species	Mouse
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	3B6-19-1
Purification technique	Affinity purification Protein A
Concentration	1.001 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Dot

Tested

Species	Recombinant full length protein - Human
Dilution info	0.49 µg/mL
Notes	-

Expected

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

WB

Not recommended

Species	Mouse, Rat, Human, Recombinant full length protein - Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	0.49 µg/mL
Notes	-

Species	Rat
Dilution info	0.49 µg/mL
Notes	-

Species	Human
Dilution info	0.49 µg/mL
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	0.98 µg/mL
Notes	-

Expected

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

Not recommended

Species	Recombinant full length protein - 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 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.

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

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

Activity summary	Proinsulin is a precursor molecule important for insulin production. Its alternate names include 'INS-IGF2' or 'preproinsulin'. It has a molecular mass of approximately 9 kDa. The primary expression occurs in the beta cells of the pancreatic islets. Proinsulin undergoes enzymatic cleavage to produce insulin and C-peptide executing a significant transformation as it matures into active insulin which plays an important role in glucose metabolism.
Biological function summary	Proinsulin facilitates the synthesis and release of insulin an essential process involving the conversion from proinsulin to insulin. Proinsulin itself does not operate as part of a complex but requires processing enzymes like prohormone convertase to mature into functional insulin. The efficient conversion of proinsulin to insulin allows cells to maintain glucose homeostasis highlighting its importance in cellular energy usage.
Pathways	Insulin biosynthesis and secretion and the glucose homeostasis pathway rely heavily on proinsulin. In the insulin biosynthesis pathway proinsulin acts upstream of insulin the hormone directly regulating blood glucose levels. The pathways involve interaction with proteins such as proprotein convertase subtilisin/kexin type 1 (PCSK1) which participates in the conversion of proinsulin to insulin. Through these pathways proinsulin ensures proper energy regulation and balances the body's glucose supply with cellular demands.
Associated diseases and disorders	Aberrations in proinsulin processing or levels closely associate with diabetes mellitus and hyperinsulinemia. Diabetes mellitus characterized by insulin deficiency or resistance can result from insufficient proinsulin conversion to insulin. Hyperinsulinemia involves excess levels of insulin-related peptides sometimes due to incomplete proinsulin processing. Disorders affecting proinsulin

often involve its relationship with insulin where inadequate or excess production directly influences blood glucose regulation and disease progression.

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

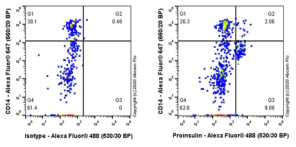
We do not recommend this combination. It is not covered by our product promise.

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.

5 product images

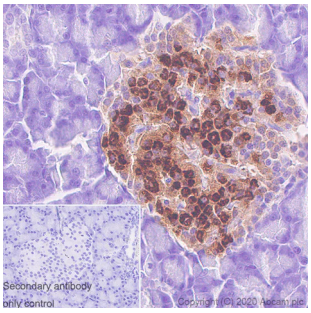


Flow Cytometry (Intracellular) - Anti-Proinsulin antibody [3B6-19-1] (ab243141)

Proinsulin Flow Cytometry (Intracellular) staining using mouse Anti-Proinsulin antibody

Intracellular flow cytometric analysis of 2% PFA-fixed, 0.1% Tween-20 permeabilized human peripheral blood mononuclear cells (PBMC) (right) labeling Proinsulin with ab243141 at 0.98µg/mL compared with mouse monoclonal IgG Isotype Control (left). Goat anti-mouse IgG (Alexa Fluor® 488) (ab150113) at 1/2000 dilution was used as the secondary antibody.
Cells were stained with mouse IgG (Left) or ab243141 (Right). Then stained with anti-CD14 (Alexa Fluor® 647).

Gated on viable cells.

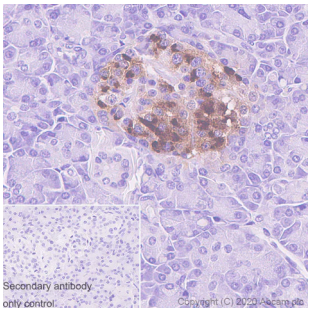


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Proinsulin antibody [3B6-19-1] (ab243141)

Proinsulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Proinsulin antibody

Immunohistochemical analysis of paraffin-embedded human pancreas tissue labeling Proinsulin with ab243141 at 0.49 µg/mL, followed by a ready to use secondary. Positive staining on islets in the human pancreas is observed. The section was incubated with ab243141 for 30 mins at RT. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument with no antigen retrieval. Counterstained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, followed by a ready to use secondary.

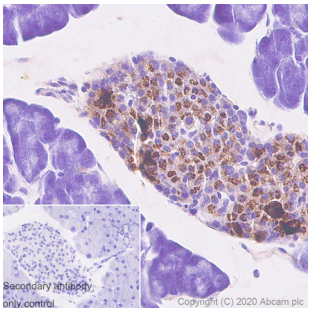


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Proinsulin antibody [3B6-19-1] (ab243141)

Proinsulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Proinsulin antibody

Immunohistochemical analysis of paraffin-embedded rat pancreas tissue labeling Proinsulin with ab243141 at 0.49 µg/mL, followed by a ready to use secondary. Positive staining on islets in the rat pancreas is observed. The section was incubated with ab243141 for 30 mins at RT. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument with no antigen retrieval. Counterstained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, followed by a ready to use secondary.



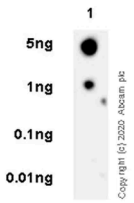
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Proinsulin antibody [3B6-19-1] (ab243141)

Proinsulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Proinsulin antibody

Immunohistochemical analysis of paraffin-embedded mouse pancreas tissue labeling Proinsulin with ab243141 at 0.49 µg/mL, followed by a ready to use secondary. Positive staining on islets in the mouse pancreas is observed. The section was incubated with ab243141 for 30 mins at RT. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument with no antigen retrieval. Counterstained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, followed by a ready to use secondary.

Dot Blot - Anti-Proinsulin antibody [3B6-19-1] (ab243141)



Dot Blot - Anti-Proinsulin antibody [3B6-19-1] (ab243141, 0.49 µg/mL).
Secondary used is a Peroxidase-Conjugated Goat anti-Mouse IgG (H+L) at 1/10000 dilution.

Sample is an insulin recombinant protein.

Blocking/Dilution buffer: 5% NFDM/TBST.

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