abcam

Product datasheet

Anti-PC1/3 antibody [EPR21908] ab220363

Recombinant RabMAb

2 References 13 Images

Overview

Product name	Anti-PC1/3 antibody [EPR21908]
Description	Rabbit monoclonal [EPR21908] to PC1/3
Host species	Rabbit
Tested applications	**Suitable for:** WB, IHC-P, IHC-Fr, ICC/IF, IP, Flow Cyt (Intra)
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Beta-TC-6 whole cell lysate. Mouse hypothalamus lysate. IHC-P: Human pancreas and colon tissue. Mouse and rat pancreas tissue. IHC-Fr: Mouse and rat pancreas tissue. ICC/IF: Beta-TC-6 cells. Flow Cyt (intra): Beta-TC-6 cells. IP: Beta-TC-6 cells.
General notes	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 production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol, 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab220363 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/1000. Predicted molecular weight: 84 kDa.
IHC-P		1/500. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
IHC-Fr		1/500.
ICC/IF		1/100.
IP		1/30.
Flow Cyt (Intra)		1/50.

Target

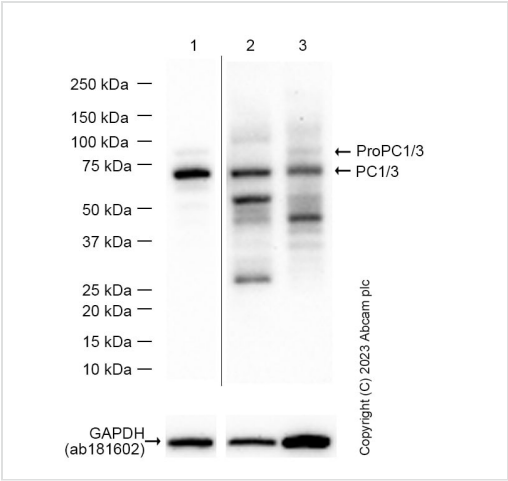
Function Involved in the processing of hormone and other protein precursors at sites comprised of pairs of basic amino acid residues. Substrates include POMC, renin, enkephalin, dynorphin, somatostatin and insulin.

Involvement in disease Defects in PCSK1 are the cause of proprotein convertase 1 deficiency (PC1 deficiency) [MIM:600955]. PC1 deficiency is characterized by obesity, hypogonadism, hypoadrenalism, reactive hypoglycemia as well as marked small-intestinal absorptive dysfunction It is due to impaired processing of prohormones.

Sequence similarities Belongs to the peptidase S8 family. Furin subfamily.

Cellular localization Cytoplasmic vesicle > secretory vesicle. Localized in the secretion granules.

Images



Western blot - Anti-PC1/3 antibody [EPR21908] (ab220363)

All lanes : Anti-PC1/3 antibody [EPR21908] (ab220363) at 1/1000 dilution

Lane 1 : Beta-TC-6 (mouse pancreas insulinoma beta cell) whole cell lysate
Lane 2 : Mouse pancreas lysate
Lane 3 : Mouse brain lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

Predicted band size: 84 kDa
Additional bands at: 66 kDa (possible mature (processed) protein)

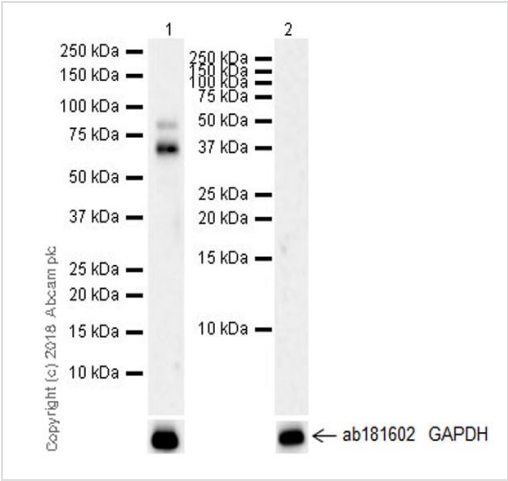
Exposure time: 80 seconds

Blocking and Diluting Buffer: 5% NFDM /TBST

87 kDa ProPC1/3; 66 kDa mature form (PMID: 26778167)

Lane1 Expsoure Time: 20 seconds

Lane2 and Lane3 were developed using a high sensitivity ECL substrate.



Western blot - Anti-PC1/3 antibody [EPR21908] (ab220363)

All lanes : Anti-PC1/3 antibody [EPR21908] (ab220363) at 1/1000 dilution

Lane 1 : Beta-TC-6 (mouse pancreas insulinoma beta cell) whole cell lysate
Lane 2 : NIH/3T3 (mouse embryonic fibroblast) whole cell lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/100000 dilution

Developed using the ECL technique.

Predicted band size: 84 kDa

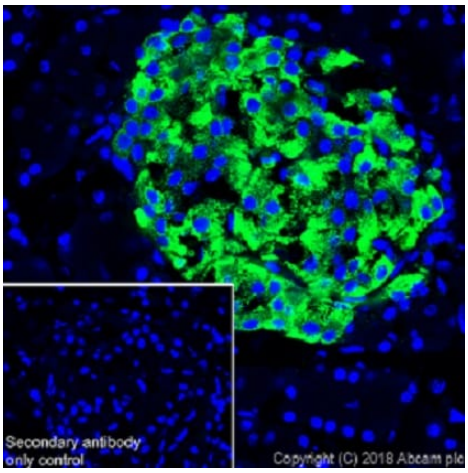
Exposure time: 125 seconds

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

The PC1/3 protein undergoes multiple intracellular cleavage steps to its 66 kDa mature form; the 87 kDa represents the ProPC1/3 intermediate (PMID: 26778167).

This blot was developed using a higher sensitivity ECL substrate.

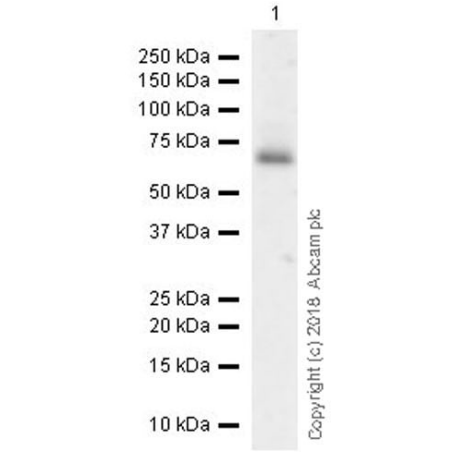
Negative control: NIH/3T3 (PMID: 9405066; PMID:15143067).



Immunohistochemistry (Frozen sections) - Anti-PC1/3 antibody [EPR21908] (ab220363)

Immunohistochemical analysis of frozen rat pancreas tissue labeling PC1/3 with ab220363 at 1/500 dilution (green), followed by **ab150077** AlexaFluor®488 Goat anti-Rabbit secondary at a 1/1000 dilution. Positive cytoplasmic staining in rat pancreatic islet (PMID: 25976560) is observed. Counter stained with DAPI (blue). Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is **ab150077** AlexaFluor®488 Goat anti-Rabbit used at a 1/1000 dilution.

Perform heat-mediated antigen retrieval by using Tris-EDTA buffer (10mM Tris base pH 9.0, 1mM EDTA, 0.05% Tween 20).



Western blot - Anti-PC1/3 antibody [EPR21908] (ab220363)

Anti-PC1/3 antibody [EPR21908] (ab220363) at 1/1000 dilution + Mouse hypothalamus lysate at 10 µg

Secondary
Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/100000 dilution

Developed using the ECL technique.

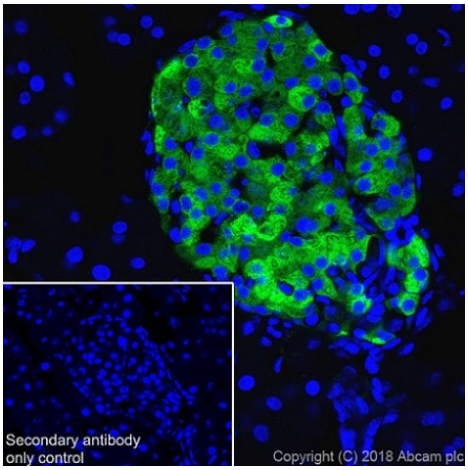
Predicted band size: 84 kDa

Exposure time: 3 minutes

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

The 66 kDa band is the mature form of PC1/3 (PMID: 26778167).

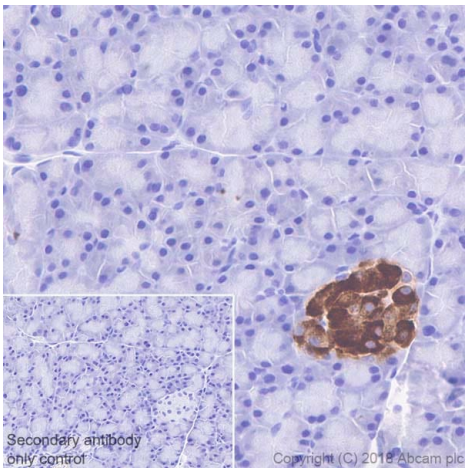
This blot was developed using a higher sensitivity ECL substrate.



Immunohistochemistry (Frozen sections) - Anti-PC1/3 antibody [EPR21908] (ab220363)

Immunohistochemical analysis of frozen mouse pancreas tissue labeling PC1/3 with ab220363 at 1/500 dilution (green), followed by **ab150077** AlexaFluor®488 Goat anti-Rabbit secondary at a 1/1000 dilution. Positive cytoplasmic staining in mouse pancreatic islet (PMID: 25976560) is observed. Counter stained with DAPI (blue). Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is **ab150077** AlexaFluor®488 Goat anti-Rabbit used at a 1/1000 dilution.

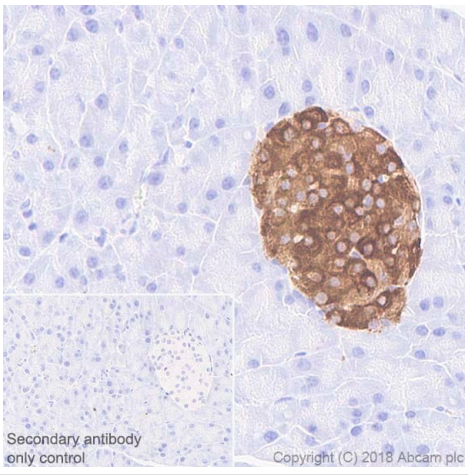
Perform heat-mediated antigen retrieval by using Tris-EDTA buffer (10mM Tris base pH 9.0, 1mM EDTA, 0.05% Tween 20).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PC1/3 antibody [EPR21908] (ab220363)

Immunohistochemical analysis of paraffin-embedded rat pancreas tissue labeling PC1/3 with ab220363 at 1/500 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Cytoplasmic staining in rat pancreatic islets (PMID: 7925129; PMID: 21190012) is observed. Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

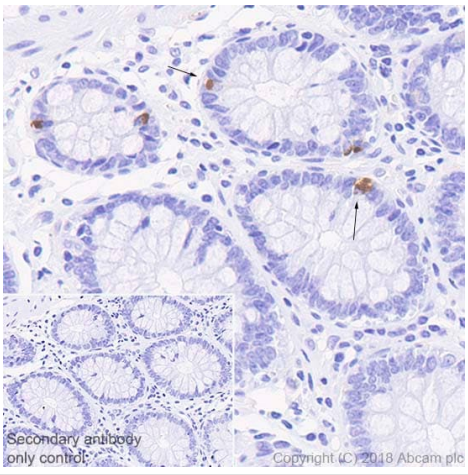
Perform heat-mediated antigen retrieval using **ab93678** (citrate buffer, pH 6.0).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PC1/3 antibody [EPR21908] (ab220363)

Immunohistochemical analysis of paraffin-embedded mouse pancreas tissue labeling PC1/3 with ab220363 at 1/500 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Cytoplasmic staining in mouse pancreatic islets (PMID: 7925129; PMID: 21190012) is observed. Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

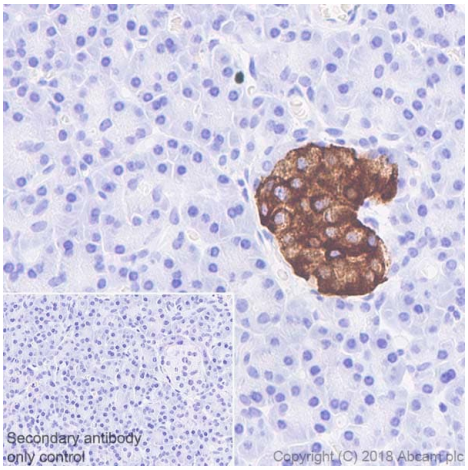
Perform heat-mediated antigen retrieval using **ab93678** (citrate buffer, pH 6.0).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PC1/3 antibody [EPR21908] (ab220363)

Immunohistochemical analysis of paraffin-embedded human colon tissue labeling PC1/3 with ab220363 at 1/500 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Sporadic cytoplasmic staining (arrows) in human colon (PMID: 18706454) is observed. Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

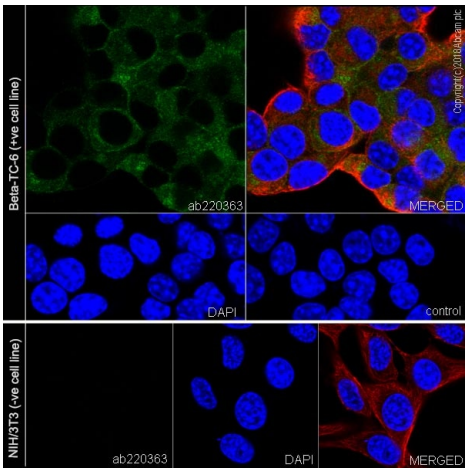
Perform heat-mediated antigen retrieval using **ab93678** (citrate buffer, pH 6.0).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PC1/3 antibody [EPR21908] (ab220363)

Immunohistochemical analysis of paraffin-embedded human pancreas tissue labeling PC1/3 with ab220363 at 1/500 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Cytoplasmic staining in human pancreatic islets (PMID: 7925129; PMID: 21190012) is observed. Counter stained with Hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat-mediated antigen retrieval using **ab93678** (citrate buffer, pH 6.0).



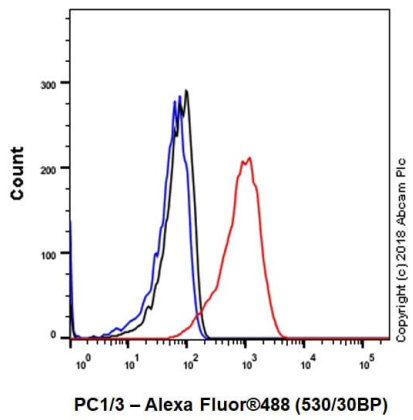
Immunocytochemistry/ Immunofluorescence - Anti-PC1/3 antibody [EPR21908] (ab220363)

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized Beta-TC-6 (mouse pancreas insulinoma beta cell) cells labeling PC1/3 with ab220363 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (**ab150077**) secondary antibody at 1/1000 dilution (green).

Confocal image showing cytoplasmic staining in Beta-TC-6 cell line.

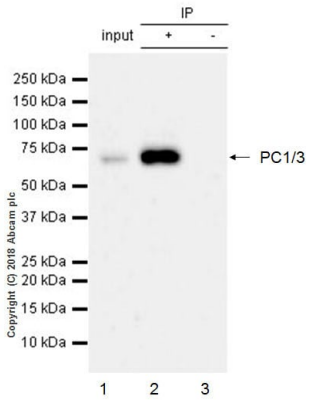
Negative cell control: NIH/3T3 (PMID: 9405066; PMID:15143067).

Counterstained with **ab195889** Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) at a 1/200 dilution (red). The nuclear counter stain is DAPI (blue). The negative control is the secondary antibody only.



Flow Cytometry (Intracellular) - Anti-PC1/3 antibody [EPR21908] (ab220363)

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized Beta-TC-6 (mouse pancreas insulinoma beta cell) cell line labeling PC1/3 with ab220363 at 1/50 (red) compared with a Rabbit monoclonal IgG (**ab172730**) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**), at 1/2000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-PC1/3 antibody [EPR21908] (ab220363)

PC1/3 was immunoprecipitated from 0.35 mg Beta-TC-6 (mouse pancreas insulinoma beta cell) whole cell lysate with ab220363 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab220363 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (**ab131366**), was used for detection at 1/1000 dilution.

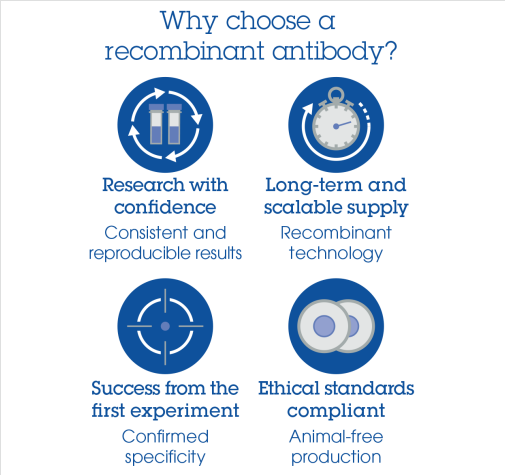
Lane 1: Beta-TC-6 (mouse pancreas insulinoma beta cell) whole cell lysate 10 µg (Input).

Lane 2: ab220363 IP in Beta-TC-6 whole cell lysate (+).

Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of ab220363 in Beta-TC-6 whole cell lysate (-).

Blocking/Dilution buffer and concentration: 5% NFDM/TBST.
Exposure time: 3 minutes.

The PC1/3 protein undergoes multiple intracellular cleavage steps to its 66 kDa mature form (PMID: 26778167).



Anti-PC1/3 antibody [EPR21908] (ab220363)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors