abcam

ab273048

Anti-Pit1 antibody [EPR23555-203]

Anti-Pit1 antibody [EPR23555-203] (ab273048) is a rabbit monoclonal antibody detecting Pit1 in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, IHC-Fr, ICC/IF**. Suitable for **Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency

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	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR23555-203
Purification technique	Affinity purification Protein A
Concentration	0.521 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse
Dilution info	1/30

Notes	-

Species	Rat
Dilution info	1/30
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Rat
Dilution info	1/50

Notes	-

Expected

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

Not recommended

Species	Human
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Mouse
Dilution info	1/100
Notes	Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

Not recommended

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

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Rat
Dilution info	1/50
Notes	-

Expected

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

Not recommended

Species	Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/4000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Human
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	-
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Target data

See full target information POU1F1

Function	Transcription factor involved in the specification of the lactotrope, somatotrope, and thyrotrope phenotypes in the developing anterior pituitary. Specifically binds to the consensus sequence 5'-TAAAT-3'. Activates growth hormone and prolactin genes (PubMed:22010633, PubMed:26612202).

Storage

Shipped at conditions	Conditional Ambient
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 is this antibody validated in?
Anti-Pit1 antibody [EPR23555-203] (ab273048) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunohistochemistry (IHC-Fr), Immunocytochemistry/immunofluorescence (ICC/IF) in Mouse, Rat samples.

What is the molecular weight of Pit1?
Anti-Pit1 [EPR23555-203] (ab273048) specifically detects a band for Pit1 (UniProt: P28069) at a molecular weight of 33kDa.

Other related products
We have a range of other formats of antibody clone [EPR23555-203] also available for your convenience: ab273048, Carrier free - ab273057

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

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

Activity summary	Pit1 also known as POU1F1 is a transcription factor with a mass of approximately 33 kDa. This protein is involved in the regulation of pituitary-specific genes and is critical for the development and function of the pituitary gland. It expresses mainly in the anterior pituitary where it activates several genes required for pituitary hormone production. Pit1 plays a role in differentiating somatotrophs lactotrophs and thyrotrophs which produce growth hormone prolactin and thyroid-stimulating hormone respectively.
Biological function summary	The Pit1 protein regulates the transcription of genes related to hormonal production in the anterior pituitary gland. It interacts with other transcription factors to form a complex that ensures the precise regulation of target genes. This regulation is essential for normal growth metabolism and reproductive functions. By controlling the expression of growth hormone thyroid-stimulating hormone and prolactin Pit1 directly affects various physiological processes in the body.
Pathways	Pit1 plays a vital role in the growth hormone (GH) and prolactin signaling pathways. It interacts with various regulatory proteins that modulate gene expression within these pathways. In the GH pathway Pit1 collaborates with proteins like GH-releasing hormone receptor to ensure adequate hormone levels in circulation. Additionally within the prolactin pathway Pit1 ensures the proper function of Jak-STAT signaling important for reproductive and metabolic functions. Its activity impacts important pathway components and further affects energy balance and cell proliferation.
Associated diseases and disorders	Mutations or alterations in the Pit1 gene can lead to combined pituitary hormone deficiency (CPHD). This condition results in impaired hormone production affecting growth and development. Pit1 interacts with proteins like PROP1 which influences pituitary function and contributes to the pathogenesis of CPHD. Another disorder associated with Pit1 is congenital hypothyroidism where thyroid-stimulating hormone production is hindered impacting metabolism and growth. Understanding the role of Pit1 in these conditions can help in developing targeted therapies to manage hormonal disorders effectively.

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

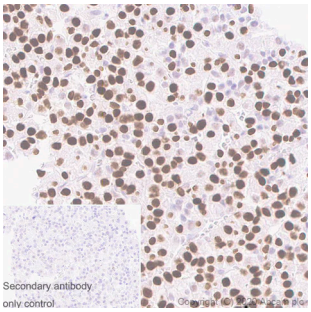
We do not recommend this combination. It is not covered by our product promise.

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.

10 product images

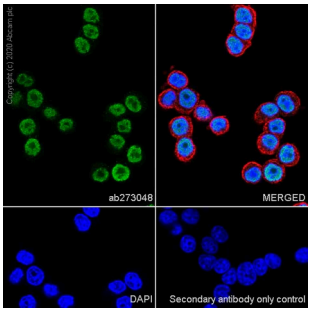


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Pit1 antibody [EPR23555-203] (ab273048)

Pit1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Pit1 antibody

Immunohistochemical analysis of paraffin-embedded mouse pituitary tissue labeling Pit1 with ab273048 at 1/4000 dilution followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Nuclear staining in mouse pituitary (PMID:21123951). Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

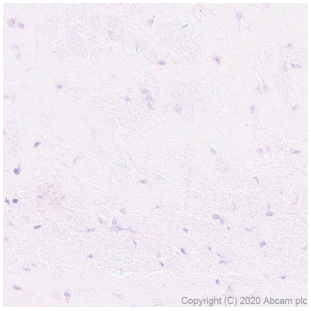


Immunocytochemistry/ Immunofluorescence - Anti-Pit1 antibody [EPR23555-203] (ab273048)

Pit1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Pit1 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized GH3 (Rat pituitary epithelial cell line) cells labelling Pit1 with ab273048 at 1/50 dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 2µg/ml dilution (Green). Confocal image showing nuclear staining in GH3 cell line. ab195889 Anti-alpha Tubulin mouse

monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5µg/ml dilution (Red). The nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 2µg/ml dilution.



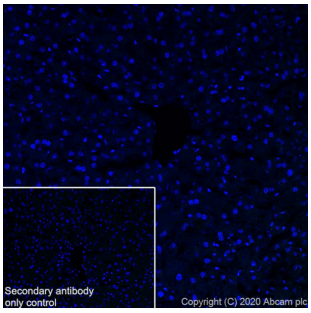
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Pit1 antibody [EPR23555-203] (ab273048)

Pit1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Pit1 antibody

Immunohistochemical analysis of paraffin-embedded mouse cerebrum tissue labeling Pit1 with ab273048 at 1/4000 dilution followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Counterstained with Hematoxylin.
Negative control: No staining in mouse cerebrum (PMID:21123951).

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

Heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

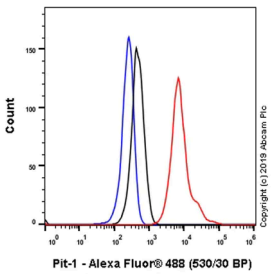


Immunohistochemistry (Frozen sections) - Anti-Pit1 antibody [EPR23555-203] (ab273048)

Pit1 Immunohistochemistry (Frozen sections) staining using rabbit Anti-Pit1 antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen mouse liver tissue labeling Pit1 with ab273048 at 1/100 dilution followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 (2µg/ml) dilution (Green). No staining on mouse liver 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 (2µg/ml) dilution.

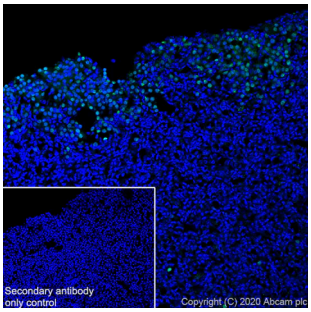
Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).



Flow Cytometry (Intracellular) - Anti-Pit1 antibody [EPR23555-203] (ab273048)

Pit1 Flow Cytometry (Intracellular) staining using rabbit Anti-Pit1 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized GH3 (Rat pituitary epithelial cell line) cells labelling Pit1 with ab273048 at 1/50 dilution (1µg) (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). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.

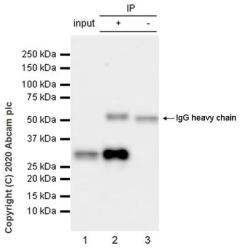


Immunohistochemistry (Frozen sections) - Anti-Pit1 antibody [EPR23555-203] (ab273048)

Pit1 Immunohistochemistry (Frozen sections) staining using rabbit Anti-Pit1 antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen mouse pituitary tissue labeling Pit1 with ab273048 at 1/100 dilution followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 (2µg/ml) dilution (Green). Nuclear staining on mouse pituitary 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 (2µg/ml) dilution.

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



Immunoprecipitation - Anti-Pit1 antibody [EPR23555-203] (ab273048)

Pit1 was immunoprecipitated from 0.35 mg mouse pituitary tissue lysate 10µg with ab273048 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab273048 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP)(ab131366) was used at 1/5000 dilution.
Lane 1: Mouse pituitary tissue lysate 10µg.

Lane 2: ab273048 IP in mouse pituitary tissue lysate.

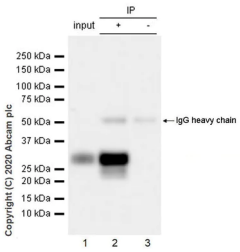
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab273048 in mouse pituitary tissue lysate.

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

Exposure time: 23 seconds.

All lanes:
Immunoprecipitation - Anti-Pit1 antibody [EPR23555-203] (ab273048)

Predicted band size: 33 kDa



Immunoprecipitation - Anti-Pit1 antibody [EPR23555-203] (ab273048)

Pit1 was immunoprecipitated from 0.35 mg GH3 (Rat pituitary epithelial), whole cell lysate 10µg with ab273048 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab273048 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1/5000 dilution.
Lane 1: GH3 (Rat pituitary epithelial), whole cell lysate 10µg.

Lane 2: ab273048 IP in GH3 whole cell lysate.

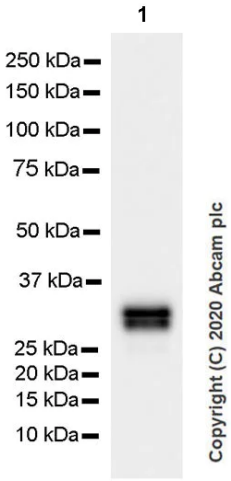
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab273048 in GH3 whole cell lysate.

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

Exposure time: 5 seconds.

All lanes:
Immunoprecipitation - Anti-Pit1 antibody [EPR23555-203] (ab273048)

Predicted band size: 33 kDa



Western blot - Anti-Pit1 antibody [EPR23555-203] (ab273048)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
The expression profile observed is consistent with what has been described in the literature. The 31kDa and 33kDa bands correspond to different isoforms (PMID: 21123951, 21060149).

Exposure time: 7 seconds.

All lanes:
Western blot - Anti-Pit1 antibody [EPR23555-203] (ab273048) at 1/1000 dilution

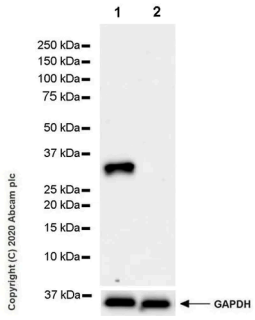
All lanes:
GH3 (Rat pituitary epithelial), whole cell lysate at 20 µg

Secondary

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

Predicted band size: 33 kDa

Observed band size: 31 kDa, 33 kDa



Western blot - Anti-Pit1 antibody [EPR23555-203] (ab273048)

The expression profile observed is consistent with what has been described in the literature (PMID: 21123951).
Negative control: Mouse liver (PMID: 21123951).
Blocking/Diluting buffer and concentration 5% NFDM/TBST

All lanes:
Western blot - Anti-Pit1 antibody [EPR23555-203] (ab273048) at 1/1000 dilution

Lane 1:
Mouse pituitary tissue lysate at 20 µg

Lane 2:
Mouse liver tissue lysate at 20 µg

Secondary

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

Predicted band size: 33 kDa

Observed band size: 33 kDa

Exposure time: 81s

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