abcam

ab227051

Anti-Adiponectin antibody [EPR17019] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR17019
Purification technique	Affinity purification Protein A
Concentration	0.966 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Expected

Species	Mouse
Dilution info	-

Notes	**We don't recommend WB for rat species because we observed an extra band around 24 kDa in addition to adiponectin, in rat plasma and rat serum lysates.**

Species	Rat
Dilution info	-
Notes	**We don't recommend WB for rat species because we observed an extra band around 24 kDa in addition to adiponectin, in rat plasma and rat serum lysates.**

ICC/IF

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

IHC-P

Tested

Species	Rat
Dilution info	-
Notes	-

Expected

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

Target data

See full target information Adipoq

Function Important adipokine involved in the control of fat metabolism and insulin sensitivity, with direct anti-diabetic, anti-atherogenic and anti-inflammatory activities. Stimulates AMPK phosphorylation and activation in the liver and the skeletal muscle, enhancing glucose utilization and fatty-acid combustion. Antagonizes TNF by negatively regulating its expression in various tissues such as liver and macrophages, and also by counteracting its effects. Inhibits endothelial NF-kappa-B signaling through a cAMP-dependent pathway. May play a role in cell growth, angiogenesis and tissue remodeling by binding and sequestering various growth factors with distinct binding affinities, depending on the type of complex, LMW, MMW or HMW.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab227051 is the carrier-free version of ab181281.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	Adiponectin also known as ADIPOQ or adipocyte complement-related protein of 30 kDa (Acrp30) is a 30 kDa protein that plays a significant mechanical role in energy homeostasis. Adiponectin is secreted predominantly by adipose tissue and circulates in the blood. This protein forms various multimeric structures including low-molecular-weight medium-molecular-weight and high-molecular-weight forms each with distinct biological functions. Its expression in adipose tissue links it closely to metabolic processes and functions related to fat storage and energy balance.
Biological function summary	Adiponectin influences glucose regulation and fatty acid oxidation. It acts as a hormone with several metabolic roles including anti-diabetic anti-atherogenic and anti-inflammatory properties. Adiponectin participates in forming a complex with other proteins such as AdipoR1 and AdipoR2 which are receptors facilitating signal transduction. The interaction of adiponectin with its receptors leads to the induction of several lipid and glucose metabolism pathways important for maintaining cellular energy balance.
Pathways	Many regulatory cascades are influenced by adiponectin. This protein is integral to the AMPK signaling pathway and the PPAR signaling pathway. In the AMPK pathway adiponectin enhances insulin sensitivity and stimulates oxidation of fatty acids in muscle tissue. Through the PPAR pathway it influences lipid metabolism and storage. Adiponectin interacts with key proteins such as leptin and resistin

	coordinating various metabolic pathways to balance energy and glucose levels making it a critical factor in metabolic regulation.
Associated diseases and disorders	Reduced levels of adiponectin associate with conditions like type 2 diabetes and cardiovascular disease. Lower circulating adiponectin concentrations correlate with obesity leading to increased insulin resistance and higher risk of type 2 diabetes. In cardiovascular disease this protein's role links to its anti-inflammatory properties and ability to decrease the proliferation of vascular smooth muscle cells. Adiponectin also interacts with proteins like cytokines that play a role in these conditions affecting the body’s inflammatory responses and metabolic processes highlighting its importance in health and disease management.

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

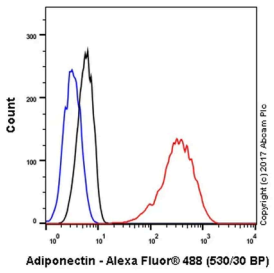
We do not recommend this combination. It is not covered by our product promise.

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.

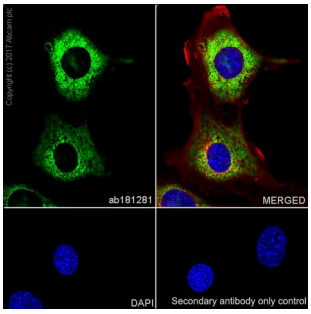
4 product images



Flow Cytometry (Intracellular) - Anti-Adiponectin antibody [EPR17019] - BSA and Azide free (ab227051)

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

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized 3T3-L1 (mouse embryonic fibroblast cell line) cell line labeling Adiponectin with ab181281 at 1/50 (red) compared with a Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/2000 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181281).



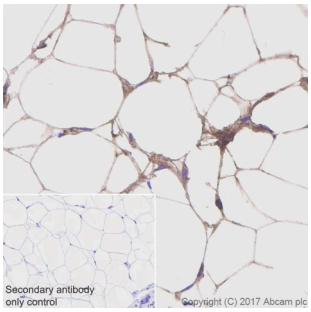
Immunocytochemistry/ Immunofluorescence - Anti-Adiponectin antibody [EPR17019] - BSA and Azide free (ab227051)

Adiponectin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Adiponectin antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized 3T3-L1 (mouse embryonic fibroblast cell line) cells labeling Adiponectin with ab181281 at 1/1000 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 on 3T3-L1 cell line.
The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) (red) at 1/200 dilution.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181281).



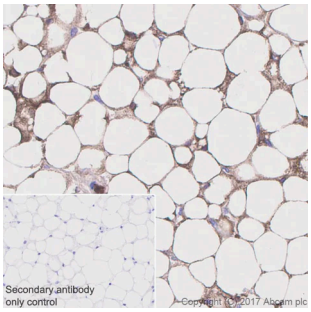
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Adiponectin antibody [EPR17019] - BSA and Azide free (ab227051)

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

Immunohistochemical analysis of paraffin-embedded rat adipose tissue labeling Adiponectin with ab181281 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Cytoplasmic staining on rat adipocytes (PMID: 25676879). Counter stained with Hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181281).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Adiponectin antibody [EPR17019] - BSA and Azide free (ab227051)

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

Immunohistochemical analysis of paraffin-embedded mouse adipose tissue labeling Adiponectin with ab181281 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Cytoplasmic staining on mouse adipocytes (PMID: 25676879). Counter stained with Hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181281).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

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