abcam

ab250806

Anti-Gbeta5 antibody [EPR14778] - 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	EPR14778
Purification technique	Affinity purification Protein A
Concentration	1.027 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-

Notes	-

Expected

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

IP

Tested

Species	Rat
Dilution info	-
Notes	-

Expected

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

WB

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

IHC-P

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

Expected

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

Target data

See full target information Guanine nucleotide-binding protein subunit beta-5

Function Enhances GTPase-activating protein (GAP) activity of regulator of G protein signaling (RGS) proteins, such as RGS7 and RGS9, hence involved in the termination of the signaling initiated by the G protein coupled receptors (GPCRs) by accelerating the GTP hydrolysis on the G-alpha subunits, thereby promoting their inactivation (PubMed:27677260). Increases RGS7 GTPase-activating protein (GAP) activity, thereby regulating mood and cognition (By similarity). Increases RGS9 GTPase-activating protein (GAP) activity, hence contributes to the deactivation of G protein signaling initiated by D(2) dopamine receptors (PubMed:27677260). May play an important role in neuronal signaling, including in the parasympathetic, but not sympathetic, control of heart rate (By similarity).

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

ab250806 is the carrier-free version of ab185206.

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	Gbeta5 also known as Guanine nucleotide-binding protein subunit beta-5 is a regulatory component of heterotrimeric G-proteins. It has an approximate mass of 37 kDa. Gbeta5 is expressed in multiple tissues with significant levels found in the brain and retina. Mechanically Gbeta5 acts as a modulator for signal transduction pathways partnering with the regulator of G-protein signaling (RGS) proteins to influence neuronal signaling processes.

Biological function summary	Gbeta5 functions as an integral part of the G-protein coupled receptor (GPCR) signaling system. It forms stable complexes with RGS proteins particularly RGS6 RGS7 RGS9 and RGS11. These complexes regulate the deactivation of G-proteins impacting the timing and efficacy of signaling events. The Gbeta5 and RGS complexes contribute to the modulation of neurotransmitter release and synaptic plasticity critical in nervous system functionalities.
Pathways	Gbeta5 plays a significant role in neurotransmission pathways such as the dopaminergic and serotonergic pathways. Its activity is linked to the fine-tuning of neuronal signals by influencing cyclic AMP levels and Ca2+ channel activity. Gbeta5 interacts with proteins like RGS9 which is important in visual and dopaminergic signaling highlighting its importance in these specific pathways.
Associated diseases and disorders	Mutations or dysregulation in Gbeta5 have associations with neurodegenerative conditions and mood disorders such as Alzheimer's disease and major depressive disorder. The dysregulated activity can lead to altered interaction with proteins like RGS7 and RGS9 affecting normal neuronal signaling and function which may contribute to the pathology of these conditions. Understanding Gbeta5's role can provide insights into developing therapeutic strategies for these 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

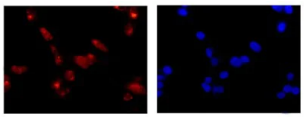
We do not recommend this combination. It is not covered by our product promise.

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.

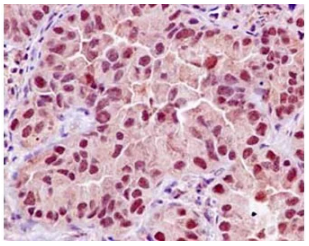
8 product images



Immunocytochemistry/ Immunofluorescence - Anti-Gbeta5 antibody [EPR14778] - BSA and Azide free (ab250806)

Gbeta5 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Gbeta5 antibody

This data was developed using ab185206, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% paraformaldehyde-fixed U87-MG cells labeling Gbeta5 with ab185206 at 1/100 dilution. Secondary antibody: Goat anti rabbit IgG (Alexa Fluor®555) at 1/200 dilution. Counterstained with Dapi blue.

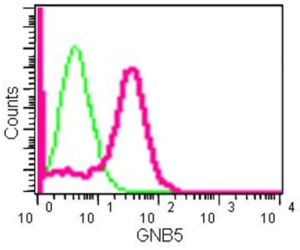


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Gbeta5 antibody [EPR14778] - BSA and Azide free (ab250806)

Gbeta5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Gbeta5 antibody

This data was developed using ab185206, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human lung adenocarcinoma tissue labeling Gbeta5 with ab185206 at 1/250 dilution followed by pre-diluted HRP-conjugated secondary antibody and counter-stained with Hematoxylin.

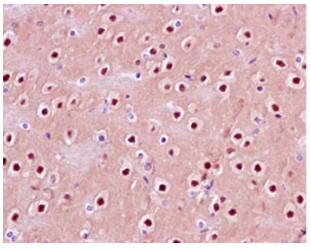
Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-Gbeta5 antibody [EPR14778] - BSA and Azide free (ab250806)

Gbeta5 Flow Cytometry (Intracellular) staining using rabbit Anti-Gbeta5 antibody

This data was developed using ab185206, the same antibody clone in a different buffer formulation.
Intracellular Flow Cytometry analysis of 2% paraformaldehyde fixed HACAT cells labeling Gbeta5 with ab185206 at 1/160 dilution (red) or a rabbit IgG isotype control (green), followed by secondary Goat anti rabbit IgG (FITC) at 1/150 dilution.

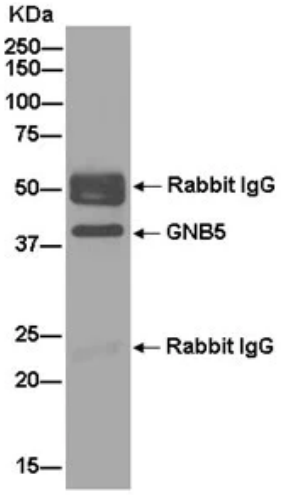


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Gbeta5 antibody [EPR14778] - BSA and Azide free (ab250806)

Gbeta5 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Gbeta5 antibody

This data was developed using ab185206, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Mouse brain tissue labeling Gbeta5 with ab185206 at 1/250 dilution followed by pre-diluted HRP-conjugated secondary antibody and counter-stained with Hematoxylin.

Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.

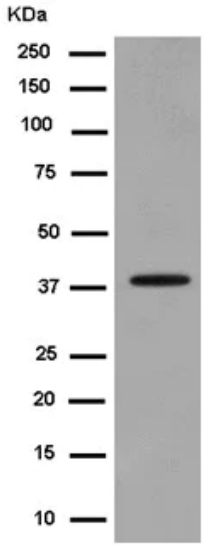


Immunoprecipitation - Anti-Gbeta5 antibody [EPR14778] - BSA and Azide free (ab250806)

This data was developed using ab185206, the same antibody clone in a different buffer formulation.
Western blot analysis of Gbeta5 in immunoprecipitation pellets from Rat brain lysate using ab185206 at 1/50 dilution. Secondary antibody Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000.

All lanes:
Immunoprecipitation - Anti-Gbeta5 antibody [EPR14778] (ab185206)

Predicted band size: 44 kDa



Western blot - Anti-Gbeta5 antibody [EPR14778] - BSA and Azide free (ab250806)

Gbeta5 Western blot staining of Human cerebellum lysate using rabbit Anti-Gbeta5 antibody

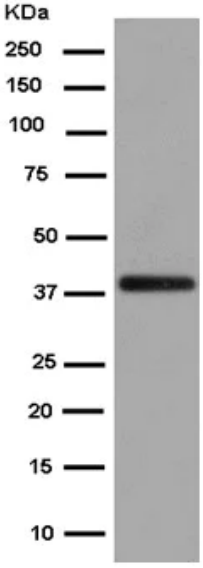
This data was developed using ab185206, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Gbeta5 antibody [EPR14778] (ab185206) at 1/2000 dilution

All lanes:
Human cerebellum lysate at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 44 kDa



Western blot - Anti-Gbeta5 antibody [EPR14778] - BSA and Azide free (ab250806)

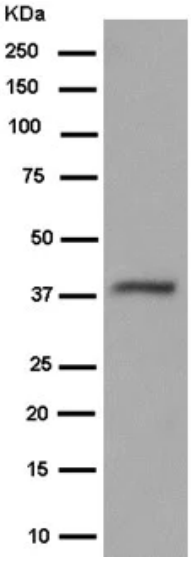
This data was developed using ab185206, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Gbeta5 antibody [EPR14778] (ab185206) at 1/10000 dilution

All lanes:
Rat brain lysate at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 44 kDa



Western blot - Anti-Gbeta5 antibody [EPR14778] - BSA and Azide free (ab250806)

This data was developed using ab185206, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Gbeta5 antibody [EPR14778] (ab185206) at 1/10000 dilution

All lanes:
Mouse brain lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 44 kDa

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