abcam

ab89298

Anti-Puma gamma/GPR109A antibody [MM0329-6S24]

Key facts

Isotype	IgG2
Host species	Rat
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Human HCAR2. Database link Q8TDS4
Clone number	MM0329-6S24
Purification technique	Affinity purification Protein G
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	The IgG fraction of culture supernatant was purified by Protein G affinity chromatography.

Reactivity data

Flow Cyt

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.

Notes	-

WB

Tested

Species	Human
Dilution info	1/500 - 1/1000
Notes	-

Target data

See full target information HCAR2

Function	Acts as a high affinity receptor for both nicotinic acid (also known as niacin) and (D)-beta-hydroxybutyrate and mediates increased adiponectin secretion and decreased lipolysis through G(i)-protein-mediated inhibition of adenylyl cyclase. This pharmacological effect requires nicotinic acid doses that are much higher than those provided by a normal diet. Mediates nicotinic acid-induced apoptosis in mature neutrophils. Receptor activation by nicotinic acid results in reduced cAMP levels which may affect activity of cAMP-dependent protein kinase A and phosphorylation of target proteins, leading to neutrophil apoptosis. The rank order of potency for the displacement of nicotinic acid binding is 5-methyl pyrazole-3-carboxylic acid = pyridine-3-acetic acid > acifran > 5-methyl nicotinic acid = acipimox >> nicotinuric acid = nicotinamide.

Storage

Shipped at conditions	Blue Ice
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

Supplementary info

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

Activity summary	Puma gamma also known as GPR109A is a G-protein-coupled receptor with a molecular weight of approximately 39 kDa. This receptor is expressed in various tissues including adipose tissue the immune system and the gastrointestinal tract. Puma gamma is located on the cell surface where it binds to ligands including niacin and butyrate. Binding leads to changes in cellular activities through signaling specifically influencing cellular responses to external stimuli.
Biological function summary	GPR109A plays an important role in metabolic processes. This receptor is involved in the regulation of lipolysis in adipocytes thereby controlling fat breakdown. GPR109A is also significant in mediating anti-inflammatory responses. Although it does not form part of a larger complex its signaling affects interactions with other cellular components. These functions contribute to maintaining homeostasis within the body's systems.
Pathways	GPR109A participates in the cAMP signaling pathway which has importance in energy balance and hormone regulation. When GPR109A activates it inhibits adenylyl cyclase reducing cyclic AMP levels. This receptor is also linked to the anti-inflammatory pathways through interactions with cytokines and other immune-modulating proteins. GPR109A's activity connects closely with proteins such as beta-arrestins and GRK which modulate its signaling efficiency and duration.
Associated diseases and disorders	GPR109A has associations with obesity and cardiovascular diseases. High levels of GPR109A expression or dysfunction can lead to increased inflammation contributing to metabolic syndrome and related health problems. This receptor's interaction with niacin is therapeutically targeted in managing dyslipidemia a risk factor for cardiovascular diseases. Additionally research indicates potential links between GPR109A and inflammatory bowel disease through modulation of immune cell activity.

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

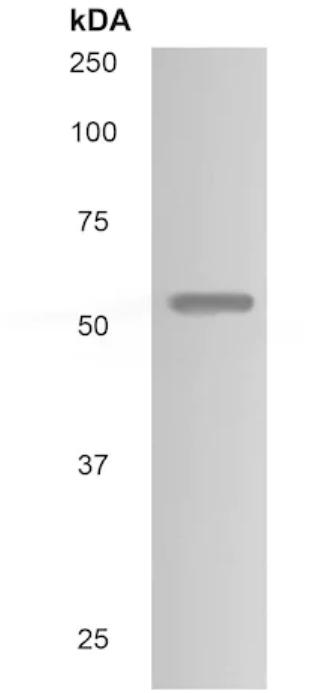
We do not recommend this combination. It is not covered by our product promise.

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.

1 product image



Western blot - Anti-Puma gamma/GPR109A antibody [MM0329-6S24] (ab89298)

All lanes:
Western blot - Anti-Puma gamma/GPR109A antibody [MM0329-6S24] (ab89298) at 1/500 dilution

All lanes:
Human Placenta tissue lysate

Predicted band size: 42 kDa

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