abcam

ab166659

Anti-GPCR GPR48/LGR4 antibody [BBX-3A8]

Key facts

Isotype	IgG2a
Host species	Rat
Storage buffer	pH: 7.2 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Nucleic Acid within Human LGR4. The exact immunogen used to generate this antibody is proprietary information. Database link Q9BXB1
Carrier free	Yes
Clone number	BBX-3A8
Purification technique	Affinity purification Protein G
Light chain type	kappa
Concentration	2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	ab166659 was purified by protein G affinity chromatography from cell culture supernatants.

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	1.2 µg for 10^6 Cells
Notes	ab18450 - Rat monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Target data

See full target information LGR4

Function	Receptor for R-spondins that potentiates the canonical Wnt signaling pathway and is involved in the formation of various organs. Upon binding to R-spondins (RSPO1, RSPO2, RSPO3 or RSPO4), associates with phosphorylated LRP6 and frizzled receptors that are activated by extracellular Wnt receptors, triggering the canonical Wnt signaling pathway to increase expression of target genes. In contrast to classical G-protein coupled receptors, does not activate heterotrimeric G-proteins to transduce the signal. Its function as activator of the Wnt signaling pathway is required for the development of various organs, including liver, kidney, intestine, bone, reproductive tract and eye. May also act as a receptor for norrin (NDP), such results however require additional confirmation in vivo. Required during spermatogenesis to activate the Wnt signaling pathway in peritubular myoid cells. Required for the maintenance of intestinal stem cells and Paneth cell differentiation in postnatal intestinal crypts. Acts as a regulator of bone formation and remodeling. Involved in kidney development; required for maintaining the ureteric bud in an undifferentiated state. Involved in the development of the anterior segment of the eye. Required during erythropoiesis. Also acts as a negative regulator of innate immunity by inhibiting TLR2/TLR4 associated pattern-recognition and pro-inflammatory cytokine production. Plays an important role in regulating the circadian rhythms of plasma lipids, partially through regulating the rhythmic expression of MTTP (By similarity). Required for proper development of GnRH neurons (gonadotropin-releasing hormone expressing neurons) that control the release of reproductive hormones from the pituitary gland (By similarity).

Storage

Shipped at conditions	Blue Ice
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

Supplementary info

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

Activity summary	GPR48 also known as LGR4 is a member of the G protein-coupled receptor (GPCR) family. This receptor has a known molecular mass of approximately 105 kDa. It is expressed in various tissues including the liver kidneys intestines and reproductive organs. LGR4 is part of the large family of leucine-rich repeat-containing GPCRs and functions through the activation of distinct downstream signaling pathways which eventually lead to cellular responses important for physiological processes.
Biological function summary	The receptor engages in a wide range of functions through its interactions with specific ligands influencing cell proliferation differentiation and survival. LGR4 does not act alone but forms complexes with other receptors or signaling molecules to perform specific activities. It significantly impacts the development of the reproductive system and plays a role in bone formation and remodeling. The receptor contributes to cellular signaling that drives essential biological processes by modulating the activity of various downstream components.
Pathways	The LGR4 receptor is actively involved in the Wnt signaling pathway and RANKL pathway both essential pathways for development and tissue homeostasis. Within the Wnt signaling pathway LGR4 interacts with proteins like LRP6 and Frizzled receptors to regulate gene expression and cellular proliferation. In the RANKL pathway it orchestrates osteoclast differentiation which is important for bone metabolism. The receptor's ability to modulate these pathways highlights its intricate role in maintaining cellular and structural integrity in the body.
Associated diseases and disorders	Aberrations in LGR4 signaling have associations with various conditions such as osteoporosis and cancer. In osteoporosis disrupted signaling affects bone density and strength leading to increased fracture risk. In cancers altered LGR4 function or expression can contribute to tumorigenesis impacting cancer progression and metastasis. The receptor can relate to proteins such as RANK and RANKL in bone diseases and interacts with other signaling molecules to affect cancer pathways suggesting its potential as a therapeutic target in 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

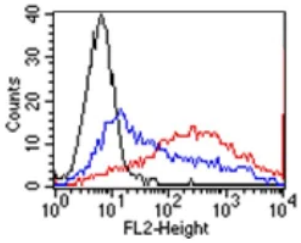
We do not recommend this combination. It is not covered by our product promise.

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.

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Terms & Conditions.

1 product image



Flow Cytometry - Anti-GPCR GPR48/LGR4 antibody [BBX-3A8] (ab166659)

Flow cytometric analysis of BOSC23 cells labeling GPCR GPR48/LGR4 with ab166659 at 1.2 µg/10^6 cells. BOSC23 cells were transiently transfected with an expression vector encoding either Human GPCR GPR48/LGR4 (red curve), Mouse GPCR GPR48/LGR4 (blue curve) or an irrelevant protein (control transfectant: black curve), followed by a Phycoerythrin-conjugated secondary antibody.

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