abcam

ab314009

Anti-LGR5 antibody [4H8]

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.88% Sodium chloride
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human LGR5. Database link O75473
Clone number	4H8
Purification technique	Affinity purification
Concentration	0.4 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/500 - 1/5000
Notes	-

Species	Rat

Dilution info	1/500 - 1/5000
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/20 - 1/200
Notes	-

Expected

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

Target data

See full target information LGR5

Function	Receptor for R-spondins that potentiates the canonical Wnt signaling pathway and acts as a stem cell marker of the intestinal epithelium and the hair follicle. 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. Involved in the development and/or maintenance of the adult intestinal stem cells during postembryonic development.

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
Storage information	Avoid freeze / thaw cycle

Notes

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.

Supplementary info

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

Activity summary	LGR5 also known as leucine-rich repeat-containing G-protein coupled receptor 5 is a transmembrane receptor primarily involved in the regulation of stem cell function. With a molecular mass of approximately 99 kDa LGR5 is highly expressed in intestinal crypts hair follicles and other tissues with proliferative capacity. This receptor functions through the activation of downstream signaling pathways upon binding with its ligand R-spondin. Often referred to as GPR49 LGR5 plays an essential role in embryonic development and adult tissue homeostasis.
Biological function summary	LGR5 marks adult stem cells in several rapidly self-renewing tissues. It forms part of a receptor complex that enhances Wnt signaling important for maintaining stemness and controlling cell fate. LGR5's activity ensures the self-renewal and differentiation balance within stem cell niches. The protein acts as a reliable stem cell marker in both intestinal and hair follicle stem cells facilitating their identification and isolation for research or therapeutic purposes.
Pathways	LGR5 interacts significantly with the Wnt signaling pathway playing a critical role in its activation. It associates with the R-spondin and LRP5/6 pathway components to potentiate Wnt signals thereby influencing cellular functions like proliferation and differentiation. LGR5's role in this pathway connects it with other key proteins such as β-catenin and TCF which are important for transcriptional regulation driven by Wnt pathway activation.
Associated diseases and disorders	LGR5 expression links with colorectal cancer and medulloblastoma. In colorectal cancer overexpression of LGR5 suggests uncontrolled Wnt signaling leading to excessive cell proliferation. This association highlights its potential as a target for cancer therapy. Moreover LGR5 interacts with proteins like APC in tumor suppression and TP53 whose mutations often accompany tumorigenesis.

Understanding LGR5's function and regulation helps develop therapeutic strategies for related pathologies.

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

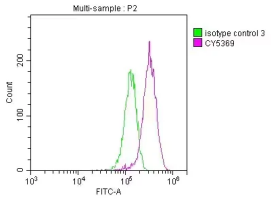
We do not recommend this combination. It is not covered by our product promise.

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



Flow Cytometry - Anti-LGR5 antibody [4H8] (ab314009)

LGR5 Flow Cytometry staining of HepG2 cells using rabbit Anti-LGR5 antibody

Overlay histogram showing HepG2 (Human liver hepatocellular carcinoma cell line) cells stained with ab314009 (pink line) at 1:50. The cells were incubated in 10% normal goat serum to block non-specific protein-protein interactions followedby the antibody (1µg/1x10E6 cells) for 1 h at 4°C.The secondary antibody used was FITC-conjugated goat anti-rabbit IgG (H+L) at 1/200 dilution for 30min at 4°C. Control antibody (green line) was Rabbit IgG (1µg/1x10E6 cells) used under the same conditions. Acquisition of >10,000 events was performed.

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