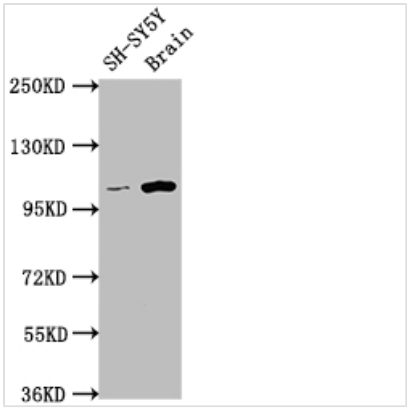
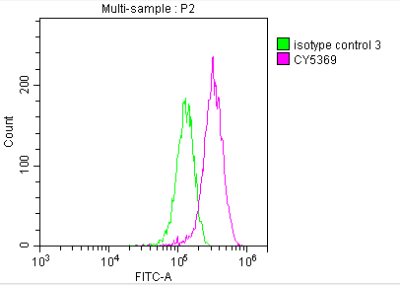
LGR5 Recombinant Monoclonal Antibody

Product Code	CSB-RA262034A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	O75473
Immunogen	A synthesized peptide derived from human LGR5/GPR49
Species Reactivity	Human, Rat
Tested Applications	ELISA, WB, FC; Recommended dilution: WB:1:500-1:5000, FC:1:20-1:200
Relevance	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.
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Cancer; Signal transduction; Stem cells
Gene Names	LGR5
Clone No.	4H8

Image



Western Blot
Positive WB detected in: SH-SY5Y whole cell lysate, Rat brain tissue
All lanes: LGR5 antibody at 1:1500
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 100, 98, 93 kDa
Observed band size: 100 kDa



Overlay histogram showing HepG2 cells stained with CSB-RA262034A0HU (red line) at 1:50. The cells were incubated in 10% normal goat serum to block non-specific protein-protein interactions followedby the antibody (1µg/1*106cells) 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/1*106cells) used under the same conditions. Acquisition of >10,000 events was performed.

Description

The recombinant monoclonal antibody targeting LGR5 was generated using protein and DNA recombinant technologies. Initially, a synthesized peptide derived from human LGR5 was used to immunize mice. After that, the spleen was extracted from the immunized mice under sterile conditions, and total RNA was extracted from the spleen cells. The cDNA synthesized from RNA reverse transcription served as the template for PCR amplification of the LGR5 antibody gene. The LGR5 antibody gene was then cloned into a vector, which was transfected into host cells for expression. The LGR5 recombinant monoclonal antibody was purified from the supernatant of the host cell culture using affinity chromatography and was rigorously tested for its ability to detect human and rat LGR5 protein in ELISA, WB, and FC experiments.

The LGR5 protein is a cell surface receptor that is involved in signaling pathways important for maintaining the self-renewal capacity of stem cells and for regulating their differentiation into specialized cell types. LGR5 binds to R-spondin, which activates the Wnt signaling pathway, leading to the activation of downstream transcription factors such as β-catenin, promoting the expression of genes involved in cell proliferation and survival. Dysregulation of LGR5 signaling has been implicated in various diseases, including cancer, where LGR5 has been identified as a marker of cancer stem cells in several tumor types.