

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Lgr5/GPR49 in ELISA. Stains human and mouse Lgr5 transfected cells but not irrelevant transfectants in Flow Cytometry and Immunocytochemistry. This antibody, also known as "RD42", has been found to detect an epitope in C-terminal LRR cap of LGR5 (Ref. 1).
Source	Monoclonal Mouse IgG _{2A} Clone # 707042
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human Lgr5/GPR49 Met1-Ile560 Accession # O75473
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	NS0 mouse myeloma cell line transfected with human Lgr5/GPR49 and eGFP

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Leucine-rich repeat G-protein-coupled receptor 5 (Lgr5), also called GPR49, is a 907 amino acid (aa), approximately 97 kDa (calculated), seven-transmembrane glycoprotein receptor in the Lgr family of cell surface receptors. The subfamily of Lgrs comprising Lgr4, Lgr5, and Lgr6 are G-protein-independent mediators of the potentiating effect of R-Spondins on Wnt signaling (2). Lgr5 binds and forms complexes with R-Spondins, Frizzled Wnt receptors and LRP Wnt co-receptors. The region of the human Lgr5 long extracellular domain used as an immunogen shares 90% amino acid sequence identity with mouse and rat Lgr5, respectively. Lgr5 is found on embryonic and adult epithelial stem cells (3). Lgr5⁺ stem cells can produce all epithelial cell types of the intestinal crypts (4). Abnormal LGR5 expression and regulation in stem cells might give rise to cancers such as intestinal, hepatocellular, pancreatic and ovarian carcinomas (5,6). This antibody has been referred to as "RD42" in Peng *et al.* (1).

References:

1. Peng *et al.* (2013) *Cell Rep.* **3(6)**:1885.
2. de Lau *et al.* (2014) *Genes Dev.* **28(4)**:305.
3. Barker *et al.* (2013) *Development* **140(12)**:2484.
4. Clevers (2013) *Nature* **495(7439)**:53.
5. Wu *et al.* (2014) *Nat Commun* **5**:3149.
6. Jang *et al.* (2013) *PLoS One* **8(12)**: e82390495.

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