

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 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 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.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.