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Datasheet for 200-301-B45S

LGR4 Antibody

Overview

Description:	Anti-LGR4 (MOUSE) Monoclonal Antibody - 200-301-B45S
Item No.:	200-301-B45S
Size:	25 µL
Applications:	ELISA, WB, IHC
Reactivity:	Human
Host Species:	Mouse

Product Details

Background:	LGR4, also known as leucine-rich repeat-containing G protein-coupled receptor 4, is a G protein-coupled receptors (GPCRs). GPCRs are membrane bound proteins that play key roles in a variety of physiologic functions. Members of the leucine-rich GPCR (LGR) family, such as GPR48, have multiple N-terminal leucine-rich repeats (LRRs) and a 7-transmembrane domain. LGR4 is an orphan GPCR reported to be expressed in steroidogenic tissues such as placenta, ovary, testis, adrenal, pancreas, prostate, and thyroid, as well as in spinal cord, stomach, heart, and kidney.
Synonyms:	mouse anti-LGR4 antibody, mouse anti-LGR 4 antibody, leucine-rich repeat-containing G protein-coupled receptor 4
Host Species:	Mouse
Clonality:	Monoclonal
Clone ID:	6G8.B3.G5.C3
Format:	IgG2b

Target Details

Gene Name:	LGR4
Reactivity:	Human
Immunogen Type:	Conjugated Peptide

Immunogen:	This monoclonal antibody was produced by repeated immunizations with a synthetic peptide corresponding to an internal region of human LGR4 protein. The hybridoma was produced by fusing BALB/c mouse splenocytes and mouse myeloma SP2/O cells using conventional technology.
Purity/Specificity:	Anti-LGR4 was purified from concentrated tissue culture supernate by Protein A chromatography. This antibody is specific for human LGR4 protein. A BLAST analysis was used to suggest cross-reactivity with LGR4 from chimpanzee, orangutan and macaque based on 100% homology with the immunizing sequence. Cross-reactivity with LGR4 from other sources has not been determined.
Relevant Links:	• UniProtKB - Q8N537 • NCBI - 157694513 • GeneID - 55366

Application Details

Tested Applications:	ELISA, WB
Suggested Applications:	IHC (Based on references)
Application Note:	Anti-LGR4 monoclonal antibody has been tested by ELISA and western blot, and is suitable in immunohistochemistry. Expect a band approximately 102 kDa in size corresponding to LGR4 protein by western blotting in the appropriate cell lysate or extract. Specific conditions for reactivity should be optimized by the end user. Use formalin-fixed paraffin-embedded sections for immunohistochemistry. No pre-treatment of sample is required.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:20,000 - 1:100,000
IHC:	5 µg/mL
WB:	1:500 - 1:3,000

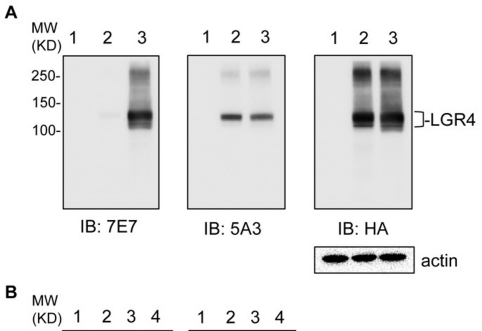
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.13 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

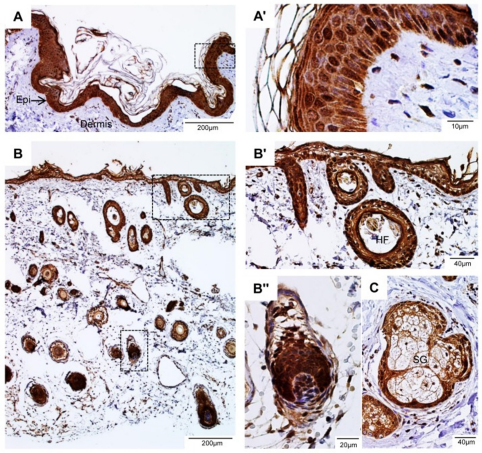
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C or below prior to opening. This vial contains a relatively low volume of reagent (25 µL). To minimize loss of volume dilute 1:10 by adding 225 µL of the buffer stated above directly to the vial. Recap, mix thoroughly and briefly centrifuge to collect the volume at the bottom of the vial. Use this intermediate dilution when calculating final dilutions as recommended below. Store the vial at -20°C or below after dilution. Avoid cycles of freezing and thawing.
Expiration:	Expiration date is three (3) months from date of receipt.

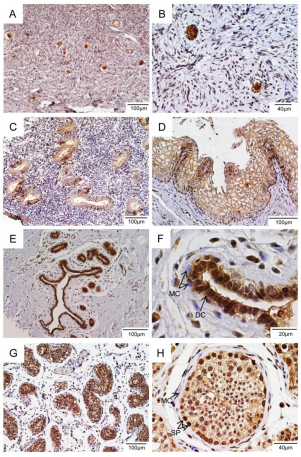
Images



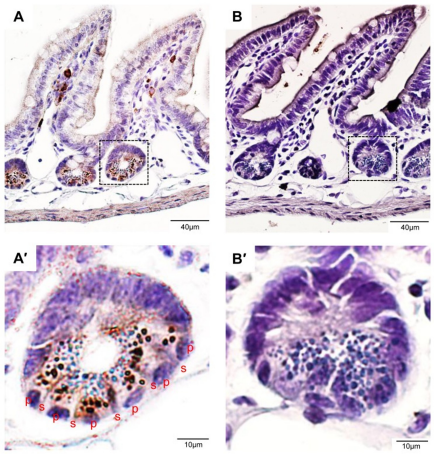
Western Blot
Recombinant and endogenous LGR4 were detected with custom generated rat monoclonal antibodies.
A, Western blot of HEK293T transfected with vector (1), mouse LGR4 tagged with HA (2), or human LGR4 tagged with HA (3) using antibodies 7E7 (left panel), 5A3 (mid panel), and anti-HA (right panel). B, Western blot of LGR4 using 7E7 (left panel) and 5A3 (mid panel) on human colon tumor cell lines HCT116 (1), parental HT29 (2), vector-infected HT29 (3) and LGR4-shRNA infected HT29 (4). Actin was used as loading control. Fig 1. PMID: 24205130



Immunohistochemistry
LGR4 is highly expressed in the epidermis and hair follicles of human skin.
A, representative micrograph of a skin section stained with 7E7, Epi – epidermis. The boxed area is enlarged in A'. B, lower magnification of a skin section showing staining of hair follicles. The boxed areas are enlarged in B' and B'', HF – hair follicle. C, staining was shown in the basal layer of sebaceous gland (SG).
Fig 2. PMID: 24205130

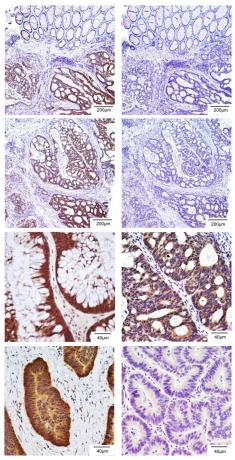


Immunohistochemistry
LGR4 is highly expressed in germ cells and epithelial cells in human reproductive organs.
A, ovary, B, primordial follicles of ovary, C, uterine glands, D, stratified squamous epithelium of uterine cervix, E, mammary duct, F, breast intralobular terminal duct, DC – duct cells, MC – myoepithelial cells, G, testis, H, seminiferous tube of testis, SP – spermatogonia, MC – myoid cells. Fig 3.
PMID: 24205130

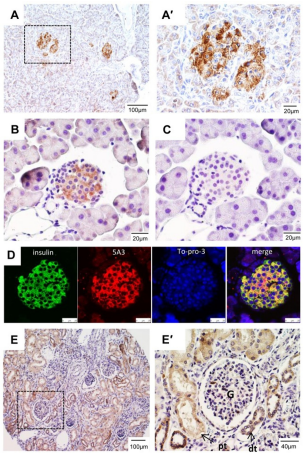


Immunohistochemistry
LGR4 is strongly expressed in the Paneth cells in mouse intestine.

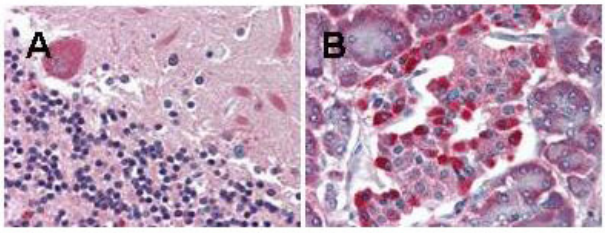
A, an ileum section stained with the antibody 5A3. B, an adjacent section stained with normal rat IgG. A' and B', enlarged view of the boxed area in A and B, respectively. P – Paneth cells, s – stem cells. Fig 4.
PMID: 24205130



Immunohistochemistry
LGR4 is overexpressed in a significant fraction of human colon cancers.
A and C, Staining of two colon tumor samples with 7E7. Specific and strong staining on colon tumor epithelial layers was clearly notable. B and D, Staining of adjacent sections of A and C, respectively, with 7E7 preincubated with human LGR4-ECD. The signal was blocked by incubation with LGR4-ECD. E-G, Three representatives of colon tumors with strong LGR4-IR. H, One representative of colon tumors with no expression of LGR4. Figure 5.
PMID: 24205130



Immunohistochemistry
Expression of LGR4 in the pancreas and kidney.
A, Staining of human pancreas with 7E7. A', Enlarged view of the area boxed in A. B, Staining of mouse pancreas with 5A3. C, Staining of an adjacent section of B with normal rat IgG as negative control. D, Co-staining of mouse pancreas with 5A3 and insulin antibody. E, Staining of human kidney, E', an enlarged view of the boxed area in E. G – glomerulus, pt – proximal convoluted tubule, dt – distal convoluted tubule.
Fig 6.
PMID: 24205130



Immunohistochemistry
Rockland's anti-LGR4 monoclonal antibody was used diluted to 5 µg/ml to detect LGR4 staining at the membrane of cells in various human tissues. A. Brain cerebellum. B. Pancreas islet. Strongly positive staining is noted in subsets of cells within the islets of Langerhans. Moderately positive staining was observed in Purkinje and Golgi neurons of the cerebellum, adrenal medulla, neuroendocrine cells, hepatocytes, lung macrophages, seminiferous tubules and Leydig cells of the testis. Faintly to moderately positive staining was also observed in cardiac myocytes and renal tubules, granulocytes, and subsets of lymphocytes. Some elastin background staining is noted. Tissue was formalin fixed and paraffin embedded. No pre-treatment of sample was required. The image shows the localization of antibody as the precipitated red signal, with a hematoxylin purple nuclear counterstain. Personal communication, Andrew Elston, Lifespan Biosciences, Seattle, WA.

References

- Yi J et al. Analysis of LGR4 receptor distribution in human and mouse tissues. *PLoS One.* (2013)

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