

# LGR4 (S-20): sc-68578

## BACKGROUND

G protein-coupled receptors (GPCRs), also designated seven transmembrane (7TM) receptors or heptahelical receptors, interact with G proteins (heterotrimeric GTPases) to synthesize intracellular second messengers, such as diacylglycerol, cyclic AMP, inositol phosphates and calcium ions. Their diverse biological functions range from vision and olfaction to neuronal and endocrine signaling and are involved in many pathological conditions. LGR4 (leucine-rich repeat-containing G protein-coupled receptor 4), also known as GPR48, is a 951 amino acid multi-pass membrane protein that contains 15 LRR (leucine-rich repeats) and belongs to the GPCR family. Expressed in multiple tissues, including testis, ovary, placenta, stomach, heart, kidney, pancreas and spleen, LGR4 functions as an orphan receptor that may be involved in physiologic activities throughout the cell. LGR4 is overexpressed in various cancer types and is thought to enhance carcinoma invasiveness and metastasis, suggesting an important role in tumor progression.

## REFERENCES

- Hsu, S.Y., Liang, S.G. and Hsueh, A.J. 1998. Characterization of two LGR genes homologous to gonadotropin and thyrotropin receptors with extracellular leucine-rich repeats and a G protein-coupled, seven-transmembrane region. *Mol. Endocrinol.* 12: 1830-1845.
- Loh, E.D., et al. 2000. Chromosomal localization of GPR48, a novel glycoprotein hormone receptor like GPCR, in human and mouse with radiation hybrid and interspecific backcross mapping. *Cytogenet. Cell Genet.* 89: 2-5.
- Loh, E.D., Broussard, S.R. and Kolakowski, L.F. 2001. Molecular characterization of a novel glycoprotein hormone G protein-coupled receptor. *Biochem. Biophys. Res. Commun.* 282: 757-764.
- Gao, Y., et al. 2006. Upregulation of GPR48 induced by downregulation of p27<sup>Kip1</sup> enhances carcinoma cell invasiveness and metastasis. *Cancer Res.* 66: 11623-11631.
- Mohri, Y., et al. 2008. Impaired hair placode formation with reduced expression of hair follicle-related genes in mice lacking Lgr4. *Dev. Dyn.* 237: 2235-2242.
- Song, H., et al. 2008. Inactivation of G protein-coupled receptor 48 (Gpr48/Lgr4) impairs definitive erythropoiesis at midgestation through down-regulation of the ATF4 signaling pathway. *J. Biol. Chem.* 283: 36687-36697.
- Weng, J., et al. 2008. Deletion of G protein-coupled receptor 48 leads to ocular anterior segment dysgenesis (ASD) through downregulation of Pitx2. *Proc. Natl. Acad. Sci. USA* 105: 6081-6086.
- Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 606666. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: LGR4 (human) mapping to 11p14.1; Lgr4 (mouse) mapping to 2 E3.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## SOURCE

LGR4 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region and extracellular domain of LGR4 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-68578 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

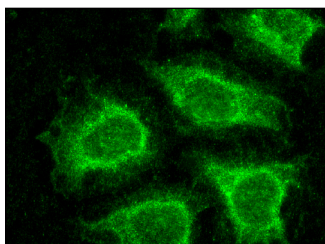
LGR4 (S-20) is recommended for detection of LGR4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

LGR4 (S-20) is also recommended for detection of LGR4 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for LGR4 siRNA (h): sc-62557, LGR4 siRNA (m): sc-62558, LGR4 shRNA Plasmid (h): sc-62557-SH, LGR4 shRNA Plasmid (m): sc-62558-SH, LGR4 shRNA (h) Lentiviral Particles: sc-62557-V and LGR4 shRNA (m) Lentiviral Particles: sc-62558-V.

Molecular Weight of LGR4: 104 kDa.

## DATA



LGR4 (S-20): sc-68578. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.


 MONOS  
 Satisfaction  
 Guaranteed

Try **LGR4 (C-12): sc-390630**, our highly recommended monoclonal alternative to LGR4 (S-20).