

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived cynomolgus monkey Lgr4/GPR48 protein		
	Cynomolgus Monkey Lgr4 (Ala25-Thr544) Accession # NP_001252594	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence	Ala25		
Analysis			
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	84 kDa		

SPECIFICATIONS

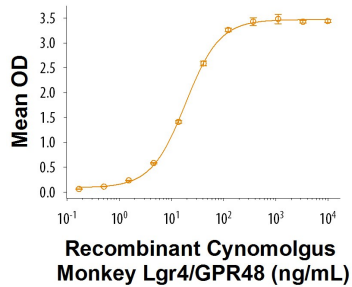
SDS-PAGE	100-111 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human R-Spondin 3 (Catalog # 3500-RS/CF) is coated at 0.5 µg/mL, 100 µL/well, Recombinant Cynomolgus Monkey Lgr4/GPR48 Fc Chimera binds with an ED ₅₀ of 6-36 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

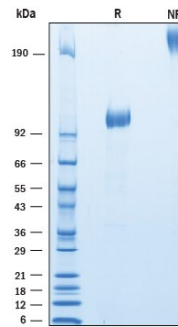
DATA

Binding Activity



When Recombinant Human R-Spondin 3 (Catalog # 3500-RS/CF) is coated at 0.5 µg/mL, 100 µL/well, Recombinant Cynomolgus Monkey Lgr4/GPR48 Fc Chimera (Catalog # 10112-GP) binds with an ED₅₀ of 6-36 ng/mL.

SDS-PAGE



2 µg/lane of Recombinant Cynomolgus Monkey Lgr4/GPR48 Fc Chimera was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 100-111 kDa and 200-220 kDa, respectively.

BACKGROUND

Lgr4 (leucine-rich repeat GPR 4), also called GPR48 (G-protein-coupled receptor 48), is a seven-transmembrane glycoprotein receptor in the Lgr family of cell surface receptors (1, 2). While this family includes receptors for hormones such as LH, FSH, TSH, and HCG, the subfamily comprising Lgr4, Lgr5, and Lgr6 are G-protein-independent mediators of the potentiating effect of R-Spondins on Wnt signaling (1-6). Lgr4 binds and forms complexes with R-Spondins, Frizzled Wnt receptors and LRP Wnt co-receptors (5). It acts at least in part by enhancing Wnt-dependent LRP phosphorylation, internalization of LRPs, and accumulation of beta-catenin (3, 4). Cynomolgus Monkey Lgr4 cDNA encodes 951 amino acids (aa), including a long N-terminal extracellular domain with multiple LRR domains that may mediate ligand interaction. The LRR-containing ECD of Cynomolgus Monkey Lgr4 shares 99% aa sequence identity with human Lgr4. Lgr4 is widely expressed in both embryo and adult. Expression of Lgr4 mRNA in adult humans is highest in pancreas, followed by liver, heart, muscle, brain, and placenta (1). In rodents, embryonic and adult expression includes liver, kidney, adrenals, bone/cartilage, and heart (2, 7-9). Lgr4 deletion in the mouse affects development in areas of expression, for example, inhibiting fetal liver definitive erythropoiesis (9). Deletion of Lgr4 specifically from stem and progenitor cells in intestinal crypts induces loss of crypts due to insufficient Wnt signaling (5, 6). Lgr4 may be over-expressed in carcinomas and may promote invasiveness and metastasis by down-regulating p27Kip1 expression (10).

References:

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