

# GPR56 (G-6): sc-390192

## BACKGROUND

G protein-coupled receptors (GPRs or GPCRs), also known as seven transmembrane receptors, heptahelical receptors, or 7TM receptors, are members of the largest protein family and play a role in many different stimulus-response pathways. G protein-coupled receptors mediate extracellular signals into intracellular signals (G protein-activation). They respond to a great variety of signaling molecules, including hormones, neurotransmitters and other proteins and peptides. GPR proteins are integral 7-pass membrane proteins with some conserved amino acid regions. G protein-coupled receptor 56 (GPR56), also designated TM7XN1 protein, contains one GPS domain. GPR56 plays an important role in cell-cell interactions and is widely expressed, with highest levels detected in brain, heart and thyroid gland. Defects in the gene encoding for GPR56 can cause bilateral frontoparietal polymicrogyria (BFPP) which is characterized by disorganized cortical lamination.

## REFERENCES

1. Liu, M., et al. 1999. GPR56, a novel secretin-like human G protein-coupled receptor gene. *Genomics* 55: 296-305.
2. Zendman, A.J., et al. 1999. TM7XN1, a novel human EGF-TM7-like cDNA, detected with mRNA differential display using human melanoma cell lines with different metastatic potential. *FEBS Lett.* 446: 292-298.
3. Clark, H.F., et al. 2003. The secreted protein discovery initiative (SPDI), a large-scale effort to identify novel human secreted and transmembrane proteins: a bioinformatics assessment. *Genome Res.* 13: 2265-2270.
4. Piao, X., et al. 2004. G protein-coupled receptor-dependent development of human frontal cortex. *Science* 303: 2033-2036.
5. Jansen, A. and Andermann, E. 2005. Genetics of the polymicrogyria syndromes. *J. Med. Genet.* 42: 369-378.

## CHROMOSOMAL LOCATION

Genetic locus: GPR56 (human) mapping to 16q21.

## SOURCE

GPR56 (G-6) is a mouse monoclonal antibody raised against amino acids 289-381 mapping within an internal region of GPR56 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GPR56 (G-6) is available conjugated to agarose (sc-390192 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390192 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390192 PE), fluorescein (sc-390192 FITC), Alexa Fluor<sup>®</sup> 488 (sc-390192 AF488), Alexa Fluor<sup>®</sup> 546 (sc-390192 AF546), Alexa Fluor<sup>®</sup> 594 (sc-390192 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-390192 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-390192 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-390192 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

GPR56 (G-6) is recommended for detection of GPR56 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for GPR56 siRNA (h): sc-60749, GPR56 shRNA Plasmid (h): sc-60749-SH and GPR56 shRNA (h) Lentiviral Particles: sc-60749-V.

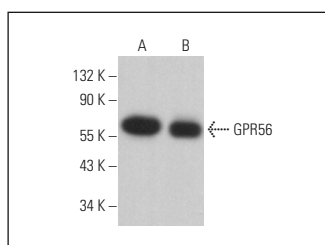
Molecular Weight of GPR56: 65 kDa.

Positive Controls: GPR56 (h): 293T Lysate: sc-158567, IMR-32 cell lysate: sc-2409 or human brain tissue extract: sc-364375.

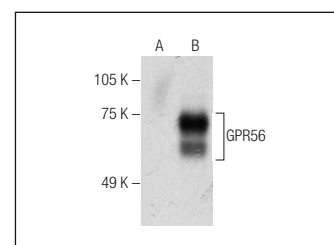
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



GPR56 (G-6): sc-390192. Western blot analysis of GPR56 expression in IMR-32 whole cell lysate (A) and human brain tissue extract (B).



GPR56 (G-6): sc-390192. Western blot analysis of GPR56 expression in non-transfected: sc-117752 (A) and human GPR56 transfected: sc-158567 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Ji, B., et al. 2018. GPR56 promotes proliferation of colorectal cancer cells and enhances metastasis via epithelial-mesenchymal transition through PI3K/AKT signaling activation. *Oncol. Rep.* 40: 1885-1896.

## STORAGE

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

## RESEARCH USE

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