

# GPRC6A (M-166): sc-67302

## BACKGROUND

GPRC6A (G protein-coupled receptor family C group 6 member A) is a 928 amino acid protein encoded by the mouse *Gprc6a* gene. GPRC6A is a member of the G protein-coupled receptor 3 family. This receptor is activated by both amino acids and extracellular concentration of calcium ions. The activity of GPRC6A is mediated by a G protein that activates a phosphatidylinositol-calcium second messenger system. GPRC6A senses changes in the extracellular concentration of calcium ions, suggesting that it may mediate extracellular calcium-sensing responses in osteoblasts. Osteocalcin stimulates the activity of GPRC6A in the presence of calcium. GPRC6A also acts as a receptor for amino acids, with a preference for basic amino acids such as L-Lys, L-Arg and L-ornithine. Its affinity for amino acids suggests that it may act as a regulatory component of the urea cycle. GPRC6A is expressed at high levels in liver, lung, spleen and heart, and at lower levels in kidney, skeletal muscle and brain.

## REFERENCES

- Wellendorph, P., et al. 2005. Deorphanization of GPRC6A: a promiscuous L- $\alpha$ -amino acid receptor with preference for basic amino acids. *Mol. Pharmacol.* 67: 589-597.
- Kuang, D., et al. 2005. Cloning and characterization of a family C orphan G protein-coupled receptor. *J. Neurochem.* 93: 383-391.
- Hrabák, A. 2006. Common ligands of G protein-coupled receptors and arginine-utilizing enzymes. *Br. J. Pharmacol.* 147: 835-837.
- Christiansen, B., et al. 2006. Known regulators of nitric oxide synthase and arginase are agonists at the human G protein-coupled receptor GPRC6A. *Br. J. Pharmacol.* 147: 855-863.
- Wang, M., et al. 2006. Activation of family C G protein-coupled receptors by the tripeptide glutathione. *J. Biol. Chem.* 281: 8864-8870.
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- Bräuner-Osborne, H., et al. 2007. Structure, pharmacology and therapeutic prospects of family C G protein-coupled receptors. *Curr. Drug Targets* 8: 169-184.
- Wellendorph, P., et al. 2007. The rat GPRC6A: cloning and characterization. *Gene* 396: 257-267.

## CHROMOSOMAL LOCATION

Genetic locus: GPRC6A (human) mapping to 6q22.1; *Gprc6a* (mouse) mapping to 10 B3.

## SOURCE

GPRC6A (M-166) is a rabbit polyclonal antibody raised against amino acids 1-166 mapping within an N-terminal extracellular domain of GPRC6A of mouse origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

GPRC6A (M-166) is recommended for detection of GPRC6A of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

GPRC6A (M-166) is also recommended for detection of GPRC6A in additional species, including canine.

Suitable for use as control antibody for GPRC6A siRNA (h): sc-62413, GPRC6A siRNA (m): sc-62414, GPRC6A shRNA Plasmid (h): sc-62413-SH, GPRC6A shRNA Plasmid (m): sc-62414-SH, GPRC6A shRNA (h) Lentiviral Particles: sc-62413-V and GPRC6A shRNA (m) Lentiviral Particles: sc-62414-V.

Molecular Weight of GPRC6A: 105 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.