

$G_{\alpha 12}$ (P-18): sc-26789

BACKGROUND

Heterotrimeric G proteins function to relay information from cell surface receptors to intracellular effectors. Each of a very broad range of receptors specifically detects an extracellular stimulus (a photon, pheromone, odorant, hormone or neurotransmitter) while the effectors (i.e. adenylyl cyclase), which act to generate one or more intracellular messengers, are less numerous. In mammals, G protein α , β and γ polypeptides are encoded by at least 16, 4 and 7 genes, respectively. Most interest in G proteins has been focused on their α subunits, since these proteins bind and hydrolyze GTP and most obviously regulate the activity of the best studied effectors. Four distinct classes of G_{α} subunits have been identified; these include $G_{\alpha s}$, $G_{\alpha i}$, $G_{\alpha q}$ and $G_{\alpha 12/13}$. The two members of the fourth class of G_{α} subunit proteins, $G_{\alpha 12}$ and $G_{\alpha 13}$, are insensitive to ADP-ribosylation by pertussis toxin, share 67% identity with each other and less than 45% identity with other G_{α} subunits and are widely expressed in a broad range of tissues.

REFERENCES

1. Strathmann, M., et al. 1989. Diversity of the G protein family: sequences from five additional α subunits in the mouse. *Proc. Natl. Acad. Sci. USA* 86: 7407-7409.
2. Simon, M.I., et al. 1991. Diversity of G proteins in signal transduction. *Science* 252: 802-808.
3. Strathmann, M.P. and Simon, M.I. 1991. $G_{\alpha 12}$ and $G_{\alpha 13}$ subunits define a fourth class of G protein α subunits. *Proc. Natl. Acad. Sci. USA* 88: 5582-5586.
4. Cali, J.J., et al. 1992. Selective tissue distribution of G protein γ subunits, including a new form of the γ subunits identified by cDNA cloning. *J. Biol. Chem.* 267: 24023-24027.

CHROMOSOMAL LOCATION

Genetic locus: GNA12 (human) mapping to 7p22.3; Gna12 (mouse) mapping to 5 G2.

SOURCE

$G_{\alpha 12}$ (P-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of $G_{\alpha 12}$ of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-26789 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

$G_{\alpha 12}$ (P-18) is recommended for detection of $G_{\alpha 12}$ 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).

$G_{\alpha 12}$ (P-18) is also recommended for detection of $G_{\alpha 12}$ in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for $G_{\alpha 12}$ siRNA (h): sc-41742, $G_{\alpha 12}$ siRNA (m): sc-41743, $G_{\alpha 12}$ shRNA Plasmid (h): sc-41742-SH, $G_{\alpha 12}$ shRNA Plasmid (m): sc-41743-SH, $G_{\alpha 12}$ shRNA (h) Lentiviral Particles: sc-41742-V and $G_{\alpha 12}$ shRNA (m) Lentiviral Particles: sc-41743-V.

Molecular Weight of $G_{\alpha 12}$: 45 kDa.

Positive Controls: mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Guilini, C., et al. 2010. Divergent roles of prokineticin receptors in the endothelial cells: angiogenesis and fenestration. *Am. J. Physiol. Heart Circ. Physiol.* 298: H844-H852.
2. Liu, J., et al. 2011. G-protein α -s and -12 subunits are involved in androgen-stimulated PI3K activation and androgen receptor transactivation in prostate cancer cells. *Prostate* 71: 1276-1286.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try $G_{\alpha 12}$ (E-12): sc-515445 or $G_{\alpha 12}$ (B-5): sc-515610, our highly recommended monoclonal alternatives to $G_{\alpha 12}$ (P-18).