

G_{α t1} (D-15): sc-26772

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_s, G_i, G_q and G_{α 12/13}. The G_i class comprises all the known α subunits that are susceptible to pertussis toxin modifications, including G_{α i-1}, G_{α i-2}, G_{α i-3}, G_{α o}, G_{α t1}, G_{α t2}, G_{α z} and G_{α gust}. In the well characterized visual system, photorhodopsin catalyzes the exchange of guanine nucleotides bound to the visual transducin G_α subunits (G_{α t1} in rod cells and G_{α t2} in cone cells).

REFERENCES

1. Strathmann, M. and Simon, M.I. 1990. G Protein diversity: a distinct class of α subunits is present in vertebrates and invertebrates. *Proc. Natl. Acad. Sci. USA* 87: 9113-9117.
2. Simon, M.I., et al. 1991. Diversity of G proteins in signal transduction. *Science* 252: 802-808.
3. 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.
4. McLaughlin, S.K., et al. 1992. Gustducin is a taste-cell-specific G protein closely related to the transducins. *Nature* 357: 563-569.
5. Conklin, B.R. and Bourne, H.R. 1993. Structural elements of G_α subunits that interact with G_{βγ}, receptors, and effectors. *Cell* 73: 631-641.

CHROMOSOMAL LOCATION

Genetic locus: GNAT1 (human) mapping to 3p21.31; Gnat1 (mouse) mapping to 9 F1.

SOURCE

G_{α t1} (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of G_{α t1} 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-26772 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.

APPLICATIONS

G_{α t1} (D-15) is recommended for detection of G_{α t1} of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

G_{α t1} (D-15) is also recommended for detection of G_{α t1} in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for G_{α t1} siRNA (h): sc-43783, G_{α t1} siRNA (m): sc-45759, G_{α t1} shRNA Plasmid (h): sc-43783-SH, G_{α t1} shRNA Plasmid (m): sc-45759-SH, G_{α t1} shRNA (h) Lentiviral Particles: sc-43783-V and G_{α t1} shRNA (m) Lentiviral Particles: sc-45759-V.

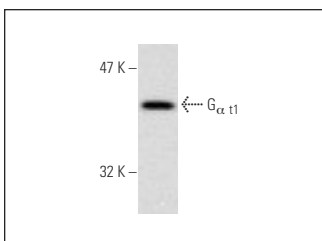
Molecular Weight of G_{α t1}: 46 kDa.

Positive Controls: rat eye extract: sc-364805.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



G_{α t1} (D-15): sc-26772. Western blot analysis of G_{α t1} expression in rat eye tissue extract.

RESEARCH USE

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

MONOS
Satisfaction
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Try G_{α t1} (3): **sc-136143**, our highly recommended monoclonal alternative to G_{α t1} (D-15).