

G_{α s/olf} (C-1 8): sc-383

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 (e.g., 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. The G_s subfamily of G α subunits includes two closely related proteins, G α_s and G α_{olf} , which respectively stimulate adenylyl cyclase and mediate response to olfactory stimuli.

REFERENCES

1. Jones, D.T. and Reed, R.R. 1991. Golf: an olfactory neuron specific G protein involved in odorant signal transduction. *Science* 244: 790-795.
2. Simon, M. I., et al. 1991. Diversity of G proteins in signal transduction. *Science* 252: 802-808.
3. Iñiguez-Lluhi, J.A., et al. 1992. G protein $\beta\gamma$ subunits synthesized in Sf9 cells. *J. Biol. Chem.* 267: 23409-23417.
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.
5. McLaughlin, S.K., et al. 1992. Gustducin is a taste-cell-specific G protein closely related to the transducins. *Nature* 357: 563-569.
6. von Weizsäcker, E., et al. 1992. Diversity among the β subunits of heterotrimeric GTP-binding proteins: characterization of a novel β subunit cDNA. *Biochem. Biophys. Res. Commun.* 183: 350-356.
7. Kleuss, C., et al. 1992. Different β subunits determine G-protein interaction with transmembrane receptors. *Nature* 358: 424-426.

CHROMOSOMAL LOCATION

Genetic locus: GNAL (human) mapping to 18p11.21, GNAS (human) mapping to 20q13.3; Gnal (mouse) mapping to 18 E1, Gnas (mouse) mapping to 2 E1-H3.

SOURCE

G $\alpha_{s/olf}$ (C-1 8) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of G $\alpha_{s/olf}$ of rat 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-383 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

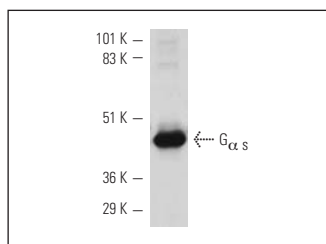
Available as agarose conjugate for immunoprecipitation, sc-383 AC, 500 μ g/0.25 ml agarose in 1 ml.

APPLICATIONS

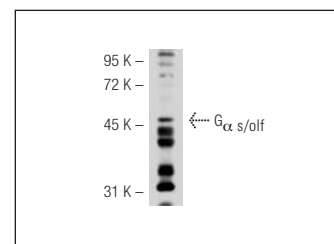
G $\alpha_{s/olf}$ (C-1 8) is recommended for detection of G α_s and G α_{olf} of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2 μ g per 100–500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of G $\alpha_{s/olf}$: 45 kDa.

DATA



G $\alpha_{s/olf}$ (C-18): sc-383. Western blot analysis of recombinant G α_s .



G $\alpha_{s/olf}$ (C-18): sc-383. Western blot analysis of G $\alpha_{s/olf}$ expression in TT whole cell lysate.

SELECT PRODUCT CITATIONS

1. Wilson, B., et al. 1997. *Pasteurella multocida* toxin activates the inositol triphosphate signaling pathway in *Xenopus* oocytes via G α_q -coupled phospholipase C- β 1. *J. Biol. Chem.* 272: 1268-1275.
2. Sinnarajah, S., et al. 1998. Inhibition and enhancement of odorant-induced cAMP accumulation in rat olfactory cilia by antibodies directed against G $\alpha_{s/olf}$ and G α_i protein subunits. *FEBS Lett.* 426: 377-380.
3. Belluscio, L., et al. 1998. Mice deficient in G α_{olf} are anosmic. *Neuron* 20: 69-81.
4. Manivet, P., et al. 2000. PDZ-dependent activation of nitric-oxide synthases by the serotonin 2B receptor. *J. Biol. Chem.* 275: 9324-9331.
5. Miwa, N., et al. 2000. Characterization of p26olf, a novel calcium-binding protein in the frog olfactory epithelium. *J. Biol. Chem.* 275: 27245-27249.
6. Mezler, M., et al. 2001. Identification of a nonmammalian G α_{olf} subtype: functional role in olfactory signaling of airborne odorants in *Xenopus laevis*. *J. Comp. Neurol.* 439: 400-410.
7. Kleuss, C. and Krause, E. 2003. G α_s is palmitoylated at the N-terminal glycine. *EMBO J.* 22: 826-832.

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.