

# $G_{\alpha i-1/3}$ (I-18): sc-26762

## 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  $\alpha$ ,  $\beta$  and  $\gamma$  polypeptides are encoded by at least 16, 4 and 7 genes, respectively. Most interest in G proteins has been focused on their  $\alpha$  subunits, since these proteins bind and hydrolyze GTP and most obviously regulate the activity of the best studied effectors. Four distinct classes of  $G_{\alpha}$  subunits have been identified; these include  $G_s$ ,  $G_i$ ,  $G_q$  and  $G_{\alpha 12/13}$ . The  $G_i$  class comprises all the known  $\alpha$  subunits that are susceptible to pertussis toxin modifications, including  $G_{\alpha i-1}$ ,  $G_{\alpha i-2}$ ,  $G_{\alpha i-3}$ ,  $G_{\alpha o}$ ,  $G_{\alpha t1}$ ,  $G_{\alpha t2}$ ,  $G_{\alpha z}$  and  $G_{\alpha gust}$ . Of these, the three  $G_{\alpha i}$  subtypes function to open atrial potassium channels.

## REFERENCES

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3. Cali, J.J., Balcueva, E.A., Rybalkin, I. and Robishaw, J.D. 1992. Selective tissue distribution of G protein  $\gamma$  subunits, including a new form of the  $\gamma$  subunits identified by cDNA cloning. *J. Biol. Chem.* 267: 24023-24027.
4. McLaughlin, S.K., McKinnon, P.J. and Margolskee, R.F. 1992. Gustducin is a taste-cell-specific G protein closely related to the transducins. *Nature* 357: 563-569.
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## CHROMOSOMAL LOCATION

Genetic locus: *GNAI1* (human) mapping to 7q21.11, *GNAI2* (human) mapping to 3p21.31; *Gnai1* (mouse) mapping to 5 A3, *Gnai3* (mouse) mapping to 3 F2.3.

## SOURCE

$G_{\alpha i-1/3}$  (I-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of  $G_{\alpha i-1}$  of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-26762 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

$G_{\alpha i-1/3}$  (I-18) is recommended for detection of Guanine nucleotide binding proteins  $G_{\alpha i-1}$  and  $G_{\alpha i-3}$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

$G_{\alpha i-1/3}$  (I-18) is also recommended for detection of Guanine nucleotide binding proteins  $G_{\alpha i-1}$  and  $G_{\alpha i-3}$  in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of  $G_{\alpha i-1/3}$ : 41 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, rat brain extract: sc-2392 or 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.

## 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.

## PROTOCOLS

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