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G α i-1 (B-11): sc-515658

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 (α photon, pheromone, odorant, hormone or neurotransmitter), whereas 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 subunits are encoded by at least 16, 4 and 7 different genes, respectively. The α subunits bind to and hydrolyze GTP. G protein complexes expressed in different tissues contain distinct α , β and γ subunits. Preferential associations between members of subunit families increase G protein functional diversity. 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 α_s , G α_i , G α_q and G $\alpha_{12/13}$. The G α_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} . Of these, the three G α_i subtypes function to open atrial potassium channels.

REFERENCES

1. Jones D.T., et al. 1990. Biochemical characterization of three stimulatory GTP-binding proteins. The large and small forms of G α_s and the olfactory-specific G protein, G α_{olf} . J. Biol. Chem. 265: 2671-2676.
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.

SOURCE

G α i-1 (B-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 91-116 within a highly divergent domain of G α i-1 of rat origin.

PRODUCT

Each vial contains 200 μ g IgG $_{2b}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

G α i-1 (B-11) is available conjugated to agarose (sc-515658 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515658 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515658 PE), fluorescein (sc-515658 FITC), Alexa Fluor® 488 (sc-515658 AF488), Alexa Fluor® 546 (sc-515658 AF546), Alexa Fluor® 594 (sc-515658 AF594) or Alexa Fluor® 647 (sc-515658 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515658 AF680) or Alexa Fluor® 790 (sc-515658 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515658 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

G α i-1 (B-11) is recommended for detection of G α i-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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); may cross-react with G α i-2 and G α i-3.

Suitable for use as control antibody for G α i-1 siRNA (h): sc-105382, G α i-1 siRNA (m): sc-41751, G α i-1 shRNA Plasmid (h): sc-105382-SH, G α i-1 shRNA Plasmid (m): sc-41751-SH, G α i-1 shRNA (h) Lentiviral Particles: sc-105382-V and G α i-1 shRNA (m) Lentiviral Particles: sc-41751-V.

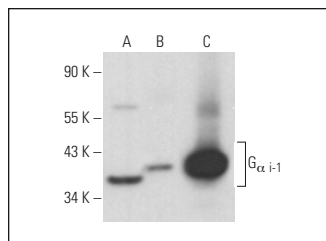
Molecular Weight of G α i-1: 41 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, 3611-RF whole cell lysate: sc-2215 or RPE-J cell lysate: sc-24771.

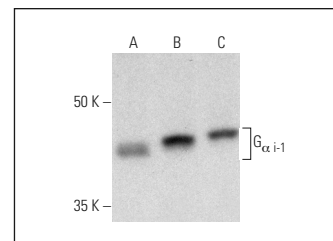
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



G α i-1 (B-11): sc-515658. Western blot analysis of G α i-1 expression in H4 (A) and Neuro-2A (B) whole cell lysates and mouse eye tissue extract (C).



G α i-1 (B-11): sc-515658. Western blot analysis of G α i-1 expression in C6 (A), 3611-RF (B) and RPE-J (C) whole cell lysates.

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 for detailed protocols and support products.

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