

G α i-1 (I-20): sc-391



The Power to Question

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 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. 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.
3. 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 (I-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping with in a highly divergent domain of G α i-1 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-391 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-391 AC, 500 μ g/0.25 ml agarose in 1 ml.

APPLICATIONS

G α i-1 (I-20) is recommended for detection of G α i-1 and, to a lesser extent, G α i-2 and G α i-3 of mouse, rat, human and cow origin by Western blotting, 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 α i-1: 41 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, rat brain extract: sc-2392 or mouse brain extract: sc-2253.

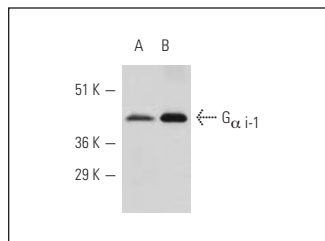
RESEARCH USE

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

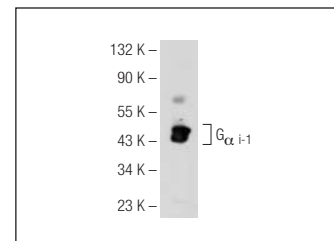
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



G α i-1 (I-20): sc-391. Western blot analysis of G α i-1 expression in bovine brain extract (A) and analysis of rat recombinant G α i-1: sc-4232 WB (B).



G α i-1 (I-20): sc-391. Western blot analysis of G α i-1 expression in SK-N-SH whole cell lysate.

SELECT PRODUCT CITATIONS

1. Murthy, K.S., et al. 1999. Identification of the G protein-activating domain of the natriuretic peptide clearance receptor (NPR-C). *J. Biol. Chem.* 274: 17587-17592.
2. Skoglund, G., et al. 1999. Cell-specific localization of G protein α -subunits in the islets of Langerhans. *J. Endocrinol.* 162: 31-37.
3. Menco, B.P., et al. 2001. Ultrastructural localization of G proteins and the channel protein TRP2 to microvilli of rat vomeronasal receptor cells. *J. Comp. Neurol.* 438: 468-489.
4. Bensimon, M., et al. 2004. Participation of G proteins in natriuretic peptide hormone secretion from heart atria. *Endocrinology* 145: 5313-5321.
5. Melnychuk, R. M., et al. 2004. Human cytomegalovirus-encoded G protein-coupled receptor US28 mediates smooth muscle cell migration through G α 12. *J. Virol.* 78: 8382-8391.
6. Filipeanu, C.M., et al. 2006. Enhancement of the recycling and activation of β -adrenergic receptor by Rab 4 GTPase in cardiac myocytes. *J. Biol. Chem.* 281: 11097-11103.
7. Olianas, M.C., et al. 2007. Proteinase-activated receptors 1 and 2 in rat olfactory system: layer-specific regulation of multiple signaling pathways in the main olfactory bulb and induction of neurite retraction in olfactory sensory neurons. *Neuroscience* 146: 1289-1301.
8. Keever, L.B., et al. 2008. G protein-coupled receptor kinase 4 γ interacts with inactive G α_s and G α_{13} . *Biochem. Biophys. Res. Commun.* 367: 649-655.

PROTOCOLS

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