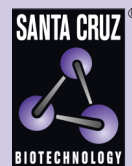


$G_{\alpha i-2}$: sc-4222 WB



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_s , G_i , G_q and $G_{12/13}$. The G_i class comprises all the known α 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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6. Conklin, B.R. and Bourne, H.R. 1993. Structural elements of G_{α} subunits that interact with $G_{\beta\gamma}$ receptors, and effectors. *Cell* 73: 631-641.
7. Ogasawara, J., Sakurai, T., Rahman, N., Kizaki, T., Hitomi, Y., Ohno, H. and Izawa, T. 2004. Acute exercise alters $G_{\alpha i-2}$ protein expressions through the ubiquitin-proteasome proteolysis pathway in rat adipocytes. *Biochem. Biophys. Res. Commun.* 323: 1109-1115.

CHROMOSOMAL LOCATION

Genetic locus: GNAI2 (human) mapping to 3p21.31; Gnai2 (mouse) mapping to 9 F1.

SOURCE

$G_{\alpha i-2}$ is expressed in *E. coli* as an 42 kDa protein mapping at amino acids 1-377 of $G_{\alpha i-2}$ of rat origin.

RESEARCH USE

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

PRODUCT

$G_{\alpha i-2}$ is purified from bacterial lysates (>98%) by column chromatography; supplied as 1.0 μ g in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

$G_{\alpha i-2}$ is suitable as a Western blotting control for sc-7276 and sc-13534.

SELECT PRODUCT CITATIONS

1. Fitzsimons, C.P., Gompels, U.A., Verzijl, D., Vischer, H.F., Mattick, C., Leurs, R. and Smit, M.J. 2006. Chemokine-directed trafficking of receptor stimulus to different G proteins: selective inducible and constitutive signaling by human herpesvirus 6-encoded chemokine receptor U51. *Mol. Pharmacol.* 69: 888-898.
2. O-Uchi, J., Sasaki, H., Morimoto, S., Kusakari, Y., Shinji, H., Obata, T., Hongo, K., Komukai, K. and Kurihara, S. 2008. Interaction of $\alpha 1$ -adrenoceptor subtypes with different G proteins induces opposite effects on cardiac L-type Ca^{2+} channel. *Circ. Res.* 102: 1378-1388.

STORAGE

Store at -20° C. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.