SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\alpha\ o}$ (23): sc-136457

SANTA CRUZ BIOTECHNOLOGY

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. adenyl 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 $G_{\alpha\ 12/13}$. The G_i class comprises all the known α subunits that are susceptible to pertussis toxin modifications, including $G_{\alpha\ i\text{-}1}$, $G_{\alpha\ i\text{-}2}$, $G_{\alpha\ i\text{-}3}$, $G_{\alpha\ o}$, $G_{\alpha\ t1}$, $G_{\alpha\ t2}$, $G_{\alpha\ z}$ and $G_{\alpha\ gust}$. Of these, the three $G_{\alpha\ i}$ subtypes function to open atrial potassium channels.

REFERENCES

1. Jones, D.T., et al. 1990. Biochemical characterization of three stimulatory GTP-binding proteins. The large and small forms of G_s and the olfactory-specific G protein, G_{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.
5. 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.
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.

CHROMOSOMAL LOCATION

Genetic locus: GNAO1 (human) mapping to 16q12.2; Gnao1 (mouse) mapping to 8 C5.

SOURCE

$G_{\alpha\ o}$ (23) is a mouse monoclonal antibody raised against amino acids 161-171 of $G_{\alpha\ o}$ of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

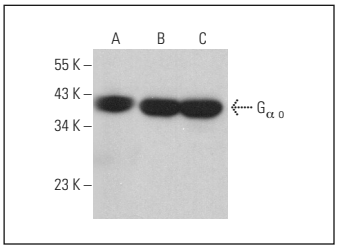
$G_{\alpha\ o}$ (23) is recommended for detection of $G_{\alpha\ o}$ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for $G_{\alpha\ o}$ siRNA (h): sc-29326, $G_{\alpha\ o}$ siRNA (m): sc-37256, $G_{\alpha\ o}$ shRNA Plasmid (h): sc-29326-SH, $G_{\alpha\ o}$ shRNA Plasmid (m): sc-37256-SH, $G_{\alpha\ o}$ shRNA (h) Lentiviral Particles: sc-29326-V and $G_{\alpha\ o}$ shRNA (m) Lentiviral Particles: sc-37256-V.

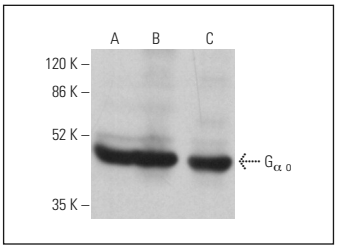
Molecular Weight of $G_{\alpha\ o}$: 40 kDa.

Positive Controls: rat brain extract: sc-2392, C6 whole cell lysate: sc-364373 or IMR-32 cell lysate: sc-2409.

DATA



$G_{\alpha\ o}$ (23): sc-136457. Western blot analysis of $G_{\alpha\ o}$ expression in C6 (**A**), IMR-32 (**B**) and SH-SY5Y (**C**) whole cell lysates.



$G_{\alpha\ o}$ (23): sc-136457. Western blot analysis of $G_{\alpha\ o}$ expression in rat cerebellum (**A**), rat brain (**B**) and human cerebellum (**C**) tissue extracts.

RESEARCH USE

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

PROTOCOLS

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

CONJUGATES

See **$G_{\alpha\ o}$ (A2): sc-13532** for $G_{\alpha\ o}$ antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.