SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\alpha\ i\text{-}2}$ (5C11): sc-80007

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.

SOURCE

$G_{\alpha\ i\text{-}2}$ (5C11) is a mouse monoclonal antibody raised against full length $G_{\alpha\ i\text{-}2}$ of rat origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of 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.

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.

APPLICATIONS

$G_{\alpha\ i\text{-}2}$ (5C11) is recommended for detection of $G_{\alpha\ i\text{-}2}$ of broad species 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for $G_{\alpha\ i\text{-}2}$ siRNA (h): sc-41752, $G_{\alpha\ i\text{-}2}$ siRNA (m): sc-41753, $G_{\alpha\ i\text{-}2}$shRNA Plasmid (m): sc-41753-SH, $G_{\alpha\ i\text{-}2}$ shRNA (h) Lentiviral Particles: sc-41752-V and $G_{\alpha\ i\text{-}2}$ shRNA (m) Lentiviral Particles: sc-41753-V.

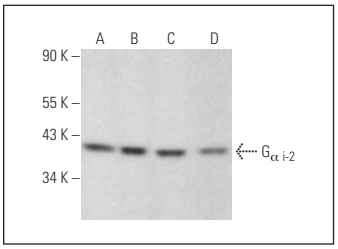
Molecular Weight of $G_{\alpha\ i\text{-}2}$: 41 kDa.

Positive Controls: human spleen extract: sc-363779, rat brain extract: sc-2392 or U-937 cell lysate: sc-2239.

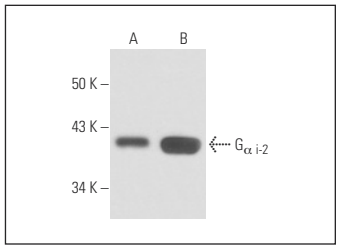
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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).

DATA



$G_{\alpha\ i\text{-}2}$ (5C11): sc-80007. Western blot analysis of $G_{\alpha\ i\text{-}2}$ expression in U-937 (**A**), SK-N-SH (**B**) and CCRF-CEM (**C**) whole cell lysates and human spleen tissue extract (**D**).



$G_{\alpha\ i\text{-}2}$ (5C11): sc-80007. Western blot analysis of $G_{\alpha\ i\text{-}2}$ expression in rat brain tissue extract (**A**) and U-937 whole cell lysate (**B**).

SELECT PRODUCT CITATIONS

1. Nakamuta, S., et al. 2011. Distinct axonal projections from two types of olfactory receptor neurons in the middle chamber epithelium of *Xenopus laevis*. Cell Tissue Res. 346: 27-33.
2. Kondoh, D., et al. 2013. Identification of G protein α subunits in the main olfactory system and vomeronasal system of the Japanese striped snake, *Elaphe quadrivirgata*. J. Vet. Med. Sci. 75: 381-385.

CONJUGATES

See **$G_{\alpha\ i\text{-}2}$ (L5): sc-13534** for $G_{\alpha\ i\text{-}2}$ antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.