SANTA CRUZ BIOTECHNOLOGY, INC.

# $G_{\alpha\ i\text{-}2}$ (T-19): sc-7276

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 $\alpha$, $\beta$ and $\gamma$ polypeptides are encoded by at least 16, 4 and 7 genes, respectively. Most interest in G proteins has been focused on their $\alpha$ subunits, since these proteins bind and hydrolyze GTP and most obviously regulate the activity of the best studied effectors. Four distinct classes of $G_{\alpha}$ 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 $\alpha$ 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

$G_{\alpha\ i\text{-}2}$ (T-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within a highly divergent domain of $G_{\alpha\text{-}i\text{-}2}$ of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7276 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

$G_{\alpha\ i\text{-}2}$ (T-19) is recommended for detection of $G_{\alpha\ i\text{-}2}$ 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

$G_{\alpha\ i\text{-}2}$ (T-19) is also recommended for detection of $G_{\alpha\ i\text{-}2}$ in additional species, including equine, canine, bovine and porcine.

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 (h): sc-41752-SH, $G_{\alpha\ i\text{-}2}$ 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: U-937 cell lysate: sc-2239 or rat brain extract: sc-2392.

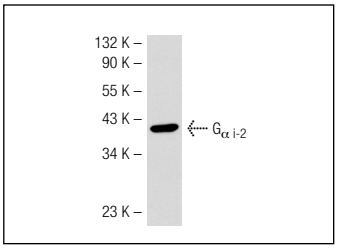
## STORAGE

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

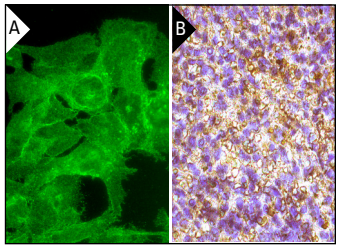
## RESEARCH USE

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

## DATA




$G_{\alpha\ i\text{-}2}$ (T-19): sc-7276. Western blot analysis of $G_{\alpha\ i\text{-}2}$ expression in U-937 whole cell lysate.




$G_{\alpha\ i\text{-}2}$ (T-19): sc-7276. Immunofluorescence staining of formalin-fixed HepG2 cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing membrane and cytoplasmic staining of red and white pulp cells (**B**).

## SELECT PRODUCT CITATIONS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2. Martínez-Marcos, A., et al. 2000. Cell turnover in the vomeronasal epithelium: evidence for differential migration and maturation of subclasses of vomeronasal neurons in the adult opossum. J. Neurobiol. 43: 50-63.
3. Zhao, N., et al. 2008. Cocaine exposure during the early postnatal period diminishes medial frontal cortex $G_s$ coupling to dopamine D1-like receptors in adult rat. Neurosci. Lett. 438: 159-162.
4. Chen, R.J., et al. 2009. Leu27IGF2 plays an opposite role to IGF1 to induce H9c2 cardiomyoblast cell apoptosis via $G_{\alpha\ q}$ signaling. J. Mol. Endocrinol. 43: 221-230.
5. Huang, K.S., et al. 2009. Paeoniae alba radix promotes peripheral nerve regeneration. Evid. Based Complement. Alternat. Med. 2011: 109809.
6. Zumaquero, E., et al. 2010. Exosomes from human lymphoblastoid B cells express enzymatically active CD38 that is associated with signaling complexes containing CD81, Hsc-70 and Lyn. Exp. Cell Res. 316: 2692-2706.
7. Salazar, I., et al. 2011. A detailed morphological study of the vomeronasal organ and the accessory olfactory bulb of cats. Microsc. Res. Tech. 74: 1109-1120.