SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\alpha\ q/11/14}$ (H-300): sc-28587

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 (e.g., 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_q class includes $G_{\alpha\ 15}$,$G_{\alpha\ 14}$, $G_{\alpha\ 11}$ and $G_{\alpha\ q}$, two of which, $G_{\alpha\ 11}$ and $G_{\alpha\ q}$ are abundant in brain and lung and present at lower levels in a variety of tissues.

REFERENCES

1. Strathmann, M. and Simon, M.I. 1990. G Protein diversity: a distinct class of α subunits is present in vertebrates and invertebrates. Proc. Natl. Acad. Sci. USA 87: 9113-9117.
2. Simon, M.I., Strathmann, M.P. and Gautam, N. 1991. Diversity of G proteins in signal transduction. Science 252: 802-808.
3. Cali, J.J., Balcueva, E.A., Rybalkin, I. and Robishaw, J.D. 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., McKinnon, P.J. and Margolskee, R.F. 1992. Gustducin is a taste-cell-specific G protein closely related to the transducins. Nature 357: 563-569.
5. von Weizsäcker, E., Strathman, M.P. and Simon, M.I. 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

$G_{\alpha\ q/11/14}$ (H-300) is a rabbit polyclonal antibody raised against amino acids 60-359 mapping at the C-terminus of $G_{\alpha\ 11}$ 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.

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 or our catalog for detailed protocols and support products.

APPLICATIONS

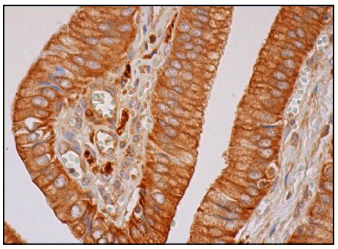
$G_{\alpha\ q/11/14}$ (H-300) is recommended for detection of $G_{\alpha\ q}$, $G_{\alpha\ 11}$ and $G_{\alpha\ 14}$ and, to a lesser extent, $G_{\alpha\ 15}$ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 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).

$G_{\alpha\ q/11/14}$ (H-300) is also recommended for detection of $G_{\alpha\ q}$, $G_{\alpha\ 11}$ and $G_{\alpha\ 14}$ and, to a lesser extent, $G_{\alpha\ 15}$ in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of $G_{\alpha\ q/11/14}$: 40-41 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

DATA



$G_{\alpha\ q/11/14}$ (H-300): sc-28587. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic and membrane staining of glandular cells.

SELECT PRODUCT CITATIONS

1. von Buchholtz, L., Elischer, A., Tareilus, E., Gouka, R., Kaiser, C., Breer, H. and Conzelmann, S. 2004. RGS21 is a novel regulator of G protein signalling selectively expressed in subpopulations of taste bud cells. Eur. J. Neurosci. 19: 1535-1544.