SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\alpha\ q}$ (E-17): sc-393

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.

CHROMOSOMAL LOCATION

Genetic locus: GNAQ (human) mapping to 9q21.2; Gnaq (mouse) mapping to 19 A.

SOURCE

$G_{\alpha\ q}$ (E-17) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within the N-terminus of $G_{\alpha\ q}$ of mouse origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-393 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

$G_{\alpha\ q}$ (E-17) is recommended for detection of $G_{\alpha\ q}$ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for $G_{\alpha\ q}$ siRNA (h): sc-35429, $G_{\alpha\ q}$ siRNA (m): sc-35430, $G_{\alpha\ q}$ siRNA (r): sc-45998, $G_{\alpha\ q}$ shRNA Plasmid (h): sc-35429-SH, $G_{\alpha\ q}$ shRNA Plasmid (m): sc-35430-SH, $G_{\alpha\ q}$ shRNA Plasmid (r): sc-45998-SH, $G_{\alpha\ q}$ shRNA (h) Lentiviral Particles: sc-35429-V, $G_{\alpha\ q}$ shRNA (m) Lentiviral Particles: sc-35430-V and $G_{\alpha\ q}$ shRNA (r) Lentiviral Particles: sc-45998-V.

Molecular Weight of $G_{\alpha\ q}$: 45 kDa.

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

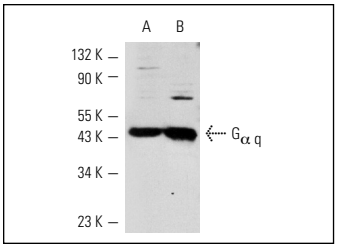
STORAGE

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

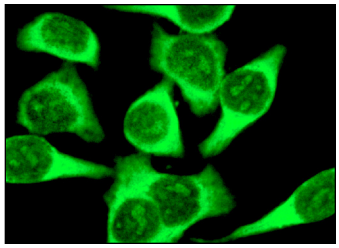
RESEARCH USE

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

DATA



$G_{\alpha\ q}$ (E-17): sc-393. Western blot analysis of $G_{\alpha\ q}$ expression in Jurkat (**A**) and HeLa (**B**) whole cell lysates.



$G_{\alpha\ q}$ (E-17): sc-393. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

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3. Hansen, A., et al. 2004. Differential distribution of olfactory receptor neurons in goldfish: structural and molecular correlates. J. Comp. Neurol. 477: 347-359.
4. Radhika, V., et al. 2004. $G_{\alpha\ 13}$ stimulates cell migration through cortactin-interacting protein Hax-1. J. Biol. Chem. 279: 49406-49413.
5. Kashef, K., et al. 2005. JNK-interacting leucine zipper protein is a novel scaffolding protein in the $G_{\alpha\ 13}$ signaling pathway. Biochemistry 44: 14090-14096.
6. Dho, S.E., et al. 2006. Dynamic regulation of mammalian numb by G protein-coupled receptors and protein kinase C activation: Structural determinants of numb association with the cortical membrane. Mol. Biol. Cell 17: 4142-4155.
7. Jeon, J.P., et al. 2008. The specific activation of TRPC4 by G_i protein subtype. Biochem. Biophys. Res. Commun. 377: 538-543.
8. Ngai, J., et al. 2008. The heterotrimeric G protein α-subunit $G_{\alpha\ q}$ regulates TCR-mediated immune responses through an Lck-dependent pathway. Eur. J. Immunol. 38: 3208-3218.
9. Haid, D.C., et al. 2012. Receptors responsive to protein breakdown products in γ-cells and δ-cells of mouse, swine and human. Front. Physiol. 3: 65.