

$G_{\alpha q}$ (K-17): sc-26791

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. adenylyl 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 $G_{\alpha s}$, $G_{\alpha i}$, $G_{\alpha q}$ and $G_{\alpha 12/13}$. The $G_{\alpha q}$ 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., 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.

CHROMOSOMAL LOCATION

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

SOURCE

$G_{\alpha q}$ (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of $G_{\alpha q}$ of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-26791 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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

$G_{\alpha q}$ (K-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).

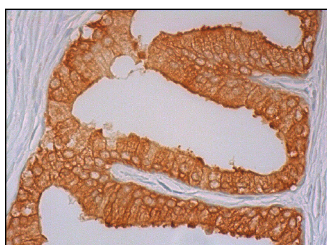
$G_{\alpha q}$ (K-17) is also recommended for detection of $G_{\alpha q}$ in additional species, including equine, canine, bovine, porcine and avian.

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.

DATA



$G_{\alpha q}$ (K-17): sc-26791. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing cytoplasmic, membrane and nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Descorbeth, M. and Anand-Srivastava, M.B. 2010. Role of vasoactive peptides in high glucose-induced increased expression of $G_{\alpha q/11}$ proteins and associated signaling in vascular smooth muscle cells. *Can. J. Physiol. Pharmacol.* 88: 331-340.

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Try $G_{\alpha q/11/14}$ (G-7): **sc-365906** or $G_{\alpha q}$ (10): **sc-136181**, our highly recommended monoclonal alternatives to $G_{\alpha q}$ (K-17). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see $G_{\alpha q/11/14}$ (G-7): **sc-365906**.