

# G $\alpha$ q/11/14 (G-7): sc-365906

## 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  $\alpha$ ,  $\beta$  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 $\alpha_s$ , 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  $\alpha$  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.

## SOURCE

G $\alpha$  q/11/14 (G-7) is a mouse monoclonal antibody raised against amino acids 60-359 mapping at the C-terminus of G $\alpha_{11}$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

G $\alpha$  q/11/14 (G-7) is available conjugated to agarose (sc-365906 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365906 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365906 PE), fluorescein (sc-365906 FITC), Alexa Fluor<sup>®</sup> 488 (sc-365906 AF488), Alexa Fluor<sup>®</sup> 546 (sc-365906 AF546), Alexa Fluor<sup>®</sup> 594 (sc-365906 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-365906 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-365906 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-365906 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## APPLICATIONS

G $\alpha$  q/11/14 (G-7) is recommended for detection of G $\alpha_{q^*}$ , G $\alpha_{11}$  and G $\alpha_{14}$  mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

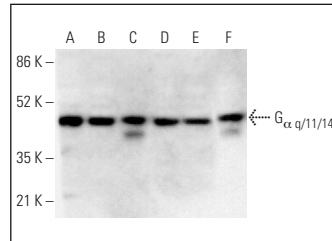
Molecular Weight of G $\alpha$  q/11/14: 40-41 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, CCRF-CEM cell lysate: sc-2225 or MOLT-4 cell lysate: sc-2233.

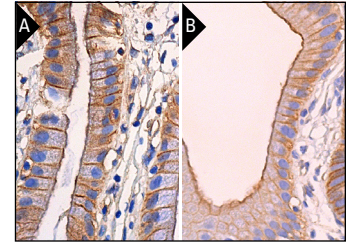
## STORAGE

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

## DATA



G $\alpha$  q/11/14 (G-7): sc-365906. Western blot analysis of G $\alpha$  q/11/14 expression in HeLa (A), CCRF-CEM (B), MOLT-4 (C), TK-1 (D), ALL-SIL (E) and TF-1 (F) whole cell lysates.



G $\alpha$  q/11/14 (G-7): sc-365906. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing membrane staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing membrane staining of glandular cells. Blocking reagent used: UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 (B).

## SELECT PRODUCT CITATIONS

1. Luessen, D.J., et al. 2017. Chronic intermittent ethanol exposure selectively alters the expression of G $\alpha$  subunit isoforms and RGS subtypes in rat prefrontal cortex. *Brain Res.* 1672: 106-112.
2. Fenstermaker, R.A., et al. 2018. Survivin monoclonal antibodies detect survivin cell surface expression and inhibit tumor growth *in vivo*. *Clin. Cancer Res.* 24: 2642-2652.
3. Tenkorang, M.A.A., et al. 2019. NADPH oxidase mediates membrane androgen receptor-induced neurodegeneration. *Endocrinology* 160: 947-963.
4. Park, E.J., et al. 2020. Exosomes co-expressing AQP5-targeting miRNAs and IL-4 receptor-binding peptide inhibit the migration of human breast cancer cells. *FASEB J.* 34: 3379-3398.
5. Zaccone, G., et al. 2020. Expression of acetylcholine- and G protein-coupled muscarinic receptor in the neuroepithelial cells (NECs) of the obligated air-breathing fish, *Arapaima gigas* (Arapaimatidae: Teleostei). *Zoology* 139: 125755.
6. White, A.D., et al. 2020. G $\alpha_{q/11}$ -dependent regulation of endosomal cAMP generation by parathyroid hormone class B GPCR. *Proc. Natl. Acad. Sci. USA* 117: 7455-7460.
7. Shabani Sadr, N.K., et al. 2020. The effect of sialic acid on the expression of miR-218, NF $\kappa$ B, MMP-9, and TIMP-1. *Biochem. Genet.* 58: 883-900.
8. Boesgaard, M.W., et al. 2020. Delineation of molecular determinants for FR900359 inhibition of G $\alpha_{q/11}$  unlocks inhibition of G $\alpha_s$ . *J. Biol. Chem.* 295: 13850-13861.

## RESEARCH USE

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