

G $_{\alpha}$ q/11 (F-5): sc-515689

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 (2-5). 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 $_{\alpha}$ 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.

CHROMOSOMAL LOCATION

Genetic locus: GNAQ (human) mapping to 9q21.2, GNA11 (human) mapping to 19p13.3; Gnaq (mouse) mapping to 19 A, Gna11 (mouse) mapping to 10 C1.

SOURCE

G $_{\alpha}$ q/11 (F-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 179-199 within an internal region of G $_{\alpha 11}$ of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_{2b}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

G $_{\alpha}$ q/11 (F-5) is recommended for detection of G $_{\alpha q}$ and G $_{\alpha 11}$ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (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: 41 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, human testis extract: sc-363781 or rat brain extract: sc-2392.

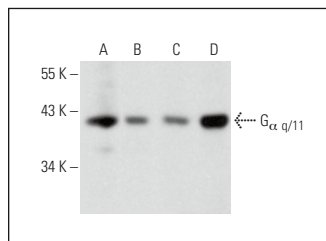
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

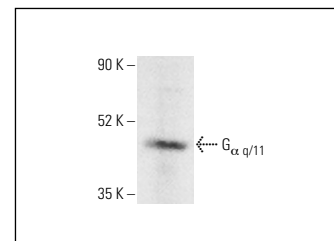
STORAGE

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 (F-5): sc-515689. Western blot analysis of G $_{\alpha}$ q/11 expression in SK-N-SH whole cell lysate (A) and human testis (B), human brain (C) and rat brain (D) tissue extracts.



G $_{\alpha}$ q/11 (F-5): sc-515689. Western blot analysis of G $_{\alpha}$ q/11 expression in human cerebellum tissue extract.

SELECT PRODUCT CITATIONS

- Muneta-Arrate, I., et al. 2020. Pimavanserin exhibits serotonin 5-HT2A receptor inverse agonism for G $_{\alpha i1}$ - and neutral antagonism for G $_{\alpha q/11}$ - proteins in human brain cortex. *Eur. Neuropsychopharmacol.* 36: 83-89.
- Costas-Insua, C., et al. 2021. Identification of BiP as a CB $_1$ receptor-interacting protein that fine-tunes cannabinoid signaling in the mouse brain. *J. Neurosci.* 41: 7924-7941.
- Tunctan, B., et al. 2022. Activation of GPR75 signaling pathway contributes to the effect of a 20-HETE mimetic, 5,14-HEDGE, to prevent hypotensive and tachycardic responses to lipopolysaccharide in a rat model of septic shock. *J. Cardiovasc. Pharmacol.* 80: 276-293.
- Wang, H.Y., et al. 2023. Simufilam reverses aberrant receptor interactions of filamin A in Alzheimer's disease. *Int. J. Mol. Sci.* 24: 13927.
- Horat, M.F., et al. 2023. Pro-inflammatory GPR75 and anti-apoptotic phospholipase signaling pathways contribute to the ameliorating effect of soluble epoxide hydrolase inhibition on chronic experimental autoimmune encephalomyelitis in mice. *Cell. Mol. Biol.* 69: 9-16.
- Muneta-Arrate, I., et al. 2024. Ligand bias and inverse agonism on 5-HT2A receptor-mediated modulation of G protein activity in post-mortem human brain. *Br. J. Pharmacol.* E-published.

RESEARCH USE

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



See G $_{\alpha}$ q/11/14 (G-7): sc-365906 for G $_{\alpha}$ q/11/14 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.