SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\alpha\ 11}$ (D-6): sc-390382

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 a 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.

CHROMOSOMAL LOCATION

Genetic locus: GNA11 (human) mapping to 19p13.3; Gna11 (mouse) mapping to 10 C1.

SOURCE

$G_{\alpha\ 11}$ (D-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 3-39 within the N-terminus of $G_{\alpha\ 11}$ of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

$G_{\alpha\ 11}$ (D-6) is available conjugated to agarose (sc-390382 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390382 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390382 PE), fluorescein (sc-390382 FITC), Alexa Fluor® 488 (sc-390382 AF488), Alexa Fluor® 546 (sc-390382 AF546), Alexa Fluor® 594 (sc-390382 AF594) or Alexa Fluor® 647 (sc-390382 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390382 AF680) or Alexa Fluor® 790 (sc-390382 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390382 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

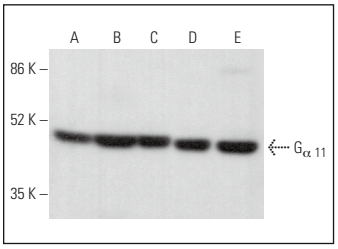
$G_{\alpha\ 11}$ (D-6) is recommended for detection of $G_{\alpha\ 11}$ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 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).

Suitable for use as control antibody for $G_{\alpha\ 11}$ siRNA (h): sc-41740, $G_{\alpha\ 11}$ siRNA (m): sc-41741, $G_{\alpha\ 11}$ siRNA (r): sc-45999, $G_{\alpha\ 11}$ shRNA Plasmid (h): sc-41740-SH, $G_{\alpha\ 11}$ shRNA Plasmid (m): sc-41741-SH, $G_{\alpha\ 11}$ shRNA Plasmid (r): sc-45999-SH, $G_{\alpha\ 11}$ shRNA (h) Lentiviral Particles: sc-41740-V, $G_{\alpha\ 11}$ shRNA (m) Lentiviral Particles: sc-41741-V and $G_{\alpha\ 11}$ shRNA (r) Lentiviral Particles: sc-45999-V.

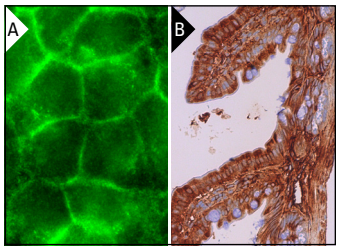
Molecular Weight of $G_{\alpha\ 11}$: 45 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, DU 145 cell lysate: sc-2268 or U-251-MG whole cell lysate: sc-364176.

DATA



$G_{\alpha\ 11}$ (D-6): sc-390382. Western blot analysis of $G_{\alpha\ 11}$ expression in NIH/3T3 (**A**), DU 145 (**B**), U-251-MG (**C**), AN3 CA (**D**) and C4 (**E**) whole cell lysates.



$G_{\alpha\ 11}$ (D-6): sc-390382. Immunofluorescence staining of formalin-fixed HeLa cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse small intestine tissue showing membrane and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Janjanam, J., et al. 2015. PLCβ3 mediates cortactin interaction with WAVE2 in MCP1-induced Actin polymerization and cell migration. Mol. Biol. Cell 26: 4589-4606.
2. Janjanam, J., et al. 2018. LIM and cysteine-rich domains 1 is required for thrombin-induced smooth muscle cell proliferation and promotes atherogenesis. J. Biol. Chem. 293: 3088-3103.
3. Inoue, A., et al. 2019. Illuminating G protein-coupling selectivity of GPCRs. Cell 177: 1933-1947.e25.
4. Wang, Q., et al. 2020. Targeting opsin4/melanopsin with a novel small molecule suppresses PKC/RAF/MEK/ERK signaling and inhibits lung adenocarcinoma progression. Mol. Cancer Res. 18: 1028-1038.

RESEARCH USE

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