SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\alpha\ 15}$ (F-3): sc-393878

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 (i.e., 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_s, G_i, G_q and $G_{\alpha\ 12/13}$. The G_i class comprises all the known α subunits that are susceptible to pertussis toxin modifications, including $G_{\alpha\ i\text{-}1}$, $G_{\alpha\ i\text{-}2}$, $G_{\alpha\ i\text{-}3}$, $G_{\alpha\ o}$, $G_{\alpha\ t1}$, $G_{\alpha\ t2}$, $G_{\alpha\ z}$ and $G_{\alpha\ gust}$. Of these, the three $G_{\alpha\ i}$ subtypes function to open atrial potassium channels. $G_{\alpha\ 15}$ is a member of the G_q subfamily and is expressed specifically in hematopoietic cells.

REFERENCES

1. Jones, D.T., et al. 1990. Biochemical characterization of three stimulatory GTP-binding proteins. The large and small forms of G_s and the olfactory-specific G-protein, G_{olf}. J. Biol. Chem. 265: 2671-2676.
2. Amatruda, T.T., III., et al. 1991. $G_{\alpha\ 16}$, a G protein α subunit specifically expressed in hematopoietic cells. Proc. Natl. Acad. Sci. USA 88: 5587-5591.
3. Simon, M.I., et al. 1991. Diversity of G proteins in signal transduction. Science 252: 802-808.
4. 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.
5. McLaughlin, S.K., et al 1992. Gustducin is a taste-cell-specific G protein closely related to the transducins. Nature 357: 563-569.

CHROMOSOMAL LOCATION

Genetic locus: GNA15 (human) mapping to 19p13.3.

SOURCE

$G_{\alpha\ 15}$ (F-3) is a mouse monoclonal antibody raised against amino acids 1-45 mapping at the N-terminus of $G_{\alpha\ 15}$ of human 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.

$G_{\alpha\ 15}$ (F-3) is available conjugated to agarose (sc-393878 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393878 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393878 PE), fluorescein (sc-393878 FITC), Alexa Fluor® 488 (sc-393878 AF488), Alexa Fluor® 546 (sc-393878 AF546), Alexa Fluor® 594 (sc-393878 AF594) or Alexa Fluor® 647 (sc-393878 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393878 AF680) or Alexa Fluor® 790 (sc-393878 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

$G_{\alpha\ 15}$ (F-3) is recommended for detection of $G_{\alpha\ 15}$ of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

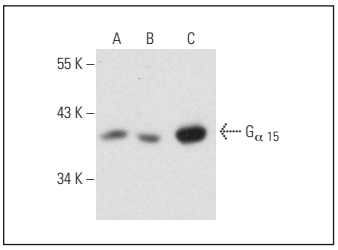
Suitable for use as control antibody for $G_{\alpha\ 15}$ siRNA (h): sc-43786, $G_{\alpha\ 15}$ shRNA Plasmid (h): sc-43786-SH and $G_{\alpha\ 15}$ shRNA (h) Lentiviral Particles: sc-43786-V.

Positive Controls: Jurkat whole cell lysate: sc-2204, THP-1 cell lysate: sc-2238 or CCRF-CEM cell lysate: sc-2225.

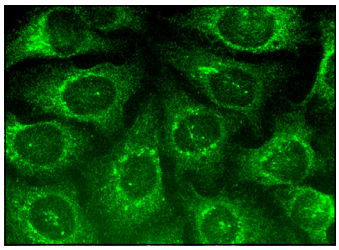
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



$G_{\alpha\ 15}$ (F-3): sc-393878. Western blot analysis of $G_{\alpha\ 15}$ expression in Jurkat (**A**), THP-1 (**B**) and CCRF-CEM (**C**) whole cell lysates.



$G_{\alpha\ 15}$ (F-3): sc-393878. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Jones, J.R., et al. 2018. SCN VIP neurons are essential for normal light-mediated resetting of the circadian system. J. Neurosci. 38: 7986-7995.

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.