SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\alpha\ 12/13}$ (H-300): sc-28588

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., 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 $G_{\alpha\ s}$, $G_{\alpha\ i}$, $G_{\alpha\ q}$ and $G_{\alpha\ 12/13}$. The two members of the fourth class of G_{α} subunit proteins, $G_{\alpha\ 12}$ and $G_{\alpha\ 13}$, are insensitive to ADP-ribosylation by pertussis toxin, share 67% identity with each other and less than 45% identity with other G_{α} subunits and are widely expressed in a broad range of tissues.

REFERENCES

1. Strathmann, M., et al. 1989. Diversity of the G protein family: sequences from five additional α subunits in the mouse. Proc. Natl. Acad. Sci. USA 86: 7407-7409.
2. Simon, M.I., et al. 1991. Diversity of G proteins in signal transduction. Science 252: 802-808.
3. Strathmann, M.P. and Simon, M.I. 1991. $G_{\alpha\ 12}$ and $G_{\alpha\ 13}$ subunits define a fourth class of G protein α subunits. Proc. Natl. Acad. Sci. USA 88: 5582-5586.

CHROMOSOMAL LOCATION

Genetic locus: GNA12 (human) mapping to 7p22.3, GNA13 (human) mapping to 17q24.1; Gna12 (mouse) mapping to 5 G2, Gna13 (mouse) mapping to 11 E1.

SOURCE

$G_{\alpha\ 12/13}$ (H-300) is a rabbit polyclonal antibody raised amino acids 89-300 mapping within an internal region of $G_{\alpha\ 12}$ of human origin.

PRODUCT

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

APPLICATIONS

$G_{\alpha\ 12/13}$ (H-300) is recommended for detection of $G_{\alpha\ 12}$ and $G_{\alpha\ 13}$ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

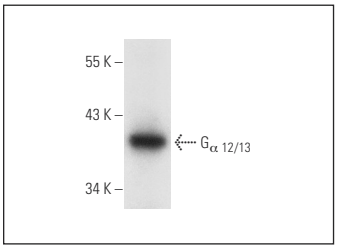
$G_{\alpha\ 12/13}$ (H-300) is also recommended for detection of $G_{\alpha\ 12}$ and $G_{\alpha\ 13}$ in additional species, including bovine.

Positive Controls: mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



$G_{\alpha\ 12/13}$ (H-300): sc-28588. Western blot analysis of $G_{\alpha\ 12/13}$ expression in mouse brain tissue extract.

SELECT PRODUCT CITATIONS

1. Sorokina, E.M., et al. 2011. Intracellular targeting of peroxiredoxin 6 to lysosomal organelles requires MAPK activity and binding to 14-3-3ε. Am. J. Physiol. Cell Physiol. 300: C1430-C1441.

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.