SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\alpha\ 13}$ (m): 293T Lysate: sc-125358

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 $G_{\alpha\ 13}$, have predicted molecular weights of 44 kDa, 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. and Simon, M.I. 1990. G Protein diversity: a distinct class of α subunits is present in vertebrates and invertebrates. Proc. Natl. Acad. Sci. USA 87: 9113-9117.
2. Cali, J.J., Balcueva, E.A., Rybalkin, I. and Robishaw, J.D. 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.
3. McLaughlin, S.K., McKinnon, P.J. and Margolskee, R.F. 1992. Gustducin is a taste-cell-specific G protein closely related to the transducins. Nature 357: 563-569.
4. von Weizsäcker, E., et al. 1992. Diversity among the β subunits of heterotrimeric GTP-binding proteins: characterization of a novel β subunit cDNA. Biochem. Biophys. Res. Commun. 183: 350-356.
5. Conklin, B.R. and Bourne, H.R. 1993. Structural elements of G_{α} subunits that interact with $G_{\beta\ \gamma}$, receptors, and effectors. Cell 73: 631-641.
6. Bulle, F., Mattei, M.G., Siegrist, S., Pawlak, A., Passage, E., Chobert, M.N., Laperche, Y. and Guellaen, G. 1987. Assignment of the human γ-glutamyl transferase gene to the long arm of chromosome 22. Hum. Genet. 76: 283-286.

CHROMOSOMAL LOCATION

Genetic locus: Gna13 (mouse) mapping to 11 E1.

PRODUCT

$G_{\alpha\ 13}$ (m): 293T Lysate represents a lysate of mouse $G_{\alpha\ 13}$ transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

$G_{\alpha\ 13}$ (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive $G_{\alpha\ 13}$ antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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 for detailed protocols and support products.