SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\beta 2}$: sc-4227 WB

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 (i.e. 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. Evidence, however, has established an important regulatory role for the $\beta\gamma$ subunits. The G protein β subunits are important regulators of G protein α subunits as well as of certain signal transduction receptors and effectors. In mammals, there are five different members of the β subunit family

REFERENCES

1. Blatt, C., Eversole-Cire, P., Cohn, V.H., Zollman, S., Fournier, R.E.K., Mohandas, L.T., Nesbitt, M., Lugo, T., Jones, D.T., Reed, R.R., Weiner, L.P., Sparkes, R.S. and Simon, M.I.. 1988. Chromosomal localization of genes encoding guanine nucleotide-binding protein subunits in mouse and human. Proc. Nat. Acad. Sci. 85: 7642-7646.
2. Gautam, N., Northup, J., Tamir, H. and Simon, M.I. 1990. G protein diversity is increased by associations with a variety of γ subunits. Proc. Natl. Acad. Sci. USA 87: 7973-7977.
3. Simon, M.I., Strathmann, M.P. and Gautam, N. 1991. Diversity of G proteins in signal transduction. Science 252: 802-808.
4. von Weizsäcker, E., Strathman, M.P. and Simon, M.I. 1992. Diversity among the β subunits of hetero-trimeric GTP-binding proteins: characterization of a novel β subunit cDNA. Biochem. Biophys. Res. Commun. 183: 350-356.
5. Kleuss, C., Scherübl, H., Hescheler, J., Schultz, G. and Wittig, B. 1992. Different β subunits determine G protein interaction with transmembrane receptors. Nature 358: 424-426.
6. Blank, J.L., Brattain, K.A. and Exton, J.H. 1992. Activation of cytosolic phosphoinositide phospholipase C by G protein $\beta\gamma$ subunits. J. Biol. Chem. 267: 23069-23075.
7. Hurowitz, E.H., Melnyk, J.M., Chen, Y.-J., Kouros-Mehr, H., Simon, M.I. and Shizuya, H. 2000. Genomic characterization of the human heterotrimeric G protein α, β and γ subunit genes. DNA Res. 7: 111-120.

CHROMOSOMAL LOCATION

Genetic locus: GNB2 (human) mapping to 7q22; Gnb2 (mouse) mapping to 5 G2.

SOURCE

$G_{\beta 2}$ is expressed in *E. coli* as a 40 kDa protein mapping at amino acids 1-363 of $G_{\beta 2}$ of human origin.

RESEARCH USE

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

PRODUCT

$G_{\beta 2}$ is purified from bacterial lysates (>98%) by column chromatography; supplied as 1.0 µg in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

$G_{\beta 2}$ is suitable as a Western blotting control for sc-380.

STORAGE

Store at -20° C. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.