

$G_{\beta 4}$ (h): 293T Lysate: sc-110843

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. 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. 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., Mohandas, L.T., Nesbitt, M., Lugo, T., Jones, D.T. and Reed, R.R. 1988. Chromosomal localization of genes encoding guanine nucleotide-binding protein subunits in mouse and human. *Proc. Nat. Acad. Sci. USA* 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., Strathmann, M.P. and Simon, M.I. 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. 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: GNB4 (human) mapping to 3q26.33.

PRODUCT

$G_{\beta 4}$ (h): 293T Lysate represents a lysate of human $G_{\beta 4}$ transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

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.

APPLICATIONS

$G_{\beta 4}$ (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive $G_{\beta 4}$ antibodies. Recommended use: 10-20 μ l per lane.

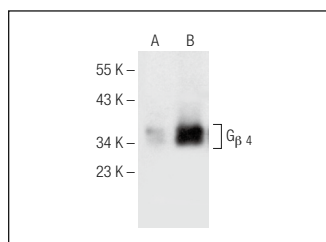
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

$G_{\beta 4}$ (F-3): sc-374383 is recommended as a positive control antibody for Western Blot analysis of enhanced human $G_{\beta 4}$ expression in $G_{\beta 4}$ transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

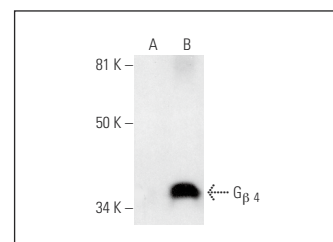
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



$G_{\beta 4}$ (F-3): sc-374383. Western blot analysis of $G_{\beta 4}$ expression in non-transfected: sc-117752 (A) and human $G_{\beta 4}$ transfected: sc-110843 (B) 293T whole cell lysates.



G_{β} (A-4): sc-166250. Western blot analysis of $G_{\beta 4}$ expression in non-transfected: sc-117752 (A) and human $G_{\beta 4}$ transfected: sc-110843 (B) 293T whole cell lysates.

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.