

GRK 2 (h2): 293T Lysate: sc-115352

BACKGROUND

Heterotrimeric G protein-mediated signal transduction is a dynamically regulated process with the intensity of signal decreasing over time despite the continued presence of the agonist. This phenomenon, referred to as agonist-mediated desensitization, involves phosphorylation of the receptor by two classes of enzymes. The first class is comprised of the second messenger-regulated kinases, such as c-AMP dependent protein kinase A and protein kinase C. The second class includes the G protein-coupled receptor kinases (GRKs). At least seven members of the GRK family have been identified. These include rhodopsin kinase (GRK 1), two forms of β -adrenergic receptor kinase: GRK 2 (β ARK, β ARK1) and GRK 3 (β ARK2), IT-11 (GRK 4), GRK 5, GRK 6 and GRK 7. Phosphorylation of receptors by GRKs appears to be strictly dependent on the receptor being in its agonist-activated state.

REFERENCES

1. Hausdorff, W.P., Caron, M.G. and Lefkowitz, R.J. 1990. Turning off the signal: desensitization of β -adrenergic receptor function. *FASEB J.* 4: 2881-2889.
2. Lorenz, W., Inglese, J., Palczewski, K., Onorato, J.J., Caron, M.G. and Lefkowitz, R.J. 1991. The receptor kinase family: primary structure of rhodopsin kinase reveals similarities to the β -adrenergic receptor kinase. *Proc. Natl. Acad. Sci. USA* 88: 8715-8719.
3. Benovic, J.L., Onorato, J.J., Arriza, J.L., Stone, W.C., Lohse, M., Jenkins, N.A., Gilbert, D.J., Copeland, N.G., Caron, M.G. and Lefkowitz, R.J. 1991. Cloning, expression, and chromosomal localization of β -adrenergic receptor kinase 2. *J. Biol. Chem.* 266: 14939-14946.
4. Inglese, J., Freedman, N.J., Koch, W.J. and Lefkowitz, R.J. 1993. Structure and mechanism of the G protein-coupled receptor kinases. *J. Biol. Chem.* 268: 23735-23738.
5. Liggett, S.B., Freedman, N.J., Schwinn, D.A. and Lefkowitz, R.J. 1993. Structural basis for receptor subtype-specific regulation revealed by a chimeric β 3/ β 2-adrenergic receptor. *Proc. Natl. Acad. Sci. USA* 90: 3665-3669.
6. Pei, G., Tiberi, M., Caron, M.G. and Lefkowitz, R.J. 1994. An approach to the study of G protein-coupled receptor kinases: an *in vitro*-purified membrane assay reveals differential receptor specificity and regulation by G $\beta\gamma$ subunits. *Proc. Natl. Acad. Sci. USA* 91: 3633-3636.
7. Premont, R.T., Koch, W.J., Inglese, J. and Lefkowitz, R.J. 1994. Identification, purification, and characterization of GRK 5, a member of the family of G protein-coupled receptor kinases. *J. Biol. Chem.* 269: 6832-6841.
8. Inglese, J., Luttrell, L.M., Iñíguez-Lluhi, J.A., Touhara, K., Koch, W.J. and Lefkowitz, R.J. 1994. Functionally active targeting domain of the β -adrenergic receptor kinase: an inhibitor of G $\beta\gamma$ -mediated stimulation of type II adenylyl cyclase. *Proc. Natl. Acad. Sci. USA* 91: 3637-3641.

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.

CHROMOSOMAL LOCATION

Genetic locus: ADRBK1 (human) mapping to 11q13.2.

PRODUCT

GRK 2 (h2): 293T Lysate represents a lysate of human GRK 2 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

GRK 2 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive GRK 2 antibodies. Recommended use: 10-20 μ l per lane.

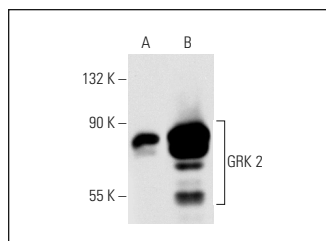
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

GRK 2 (C-9): sc-13143 is recommended as a positive control antibody for Western Blot analysis of enhanced human GRK 2 expression in GRK 2 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



GRK 2 (C-9): sc-13143. Western blot analysis of GRK 2 expression in non-transfected: sc-117752 (A) and human GRK 2 transfected: sc-115352 (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.