

GRK 6 (96-165): sc-4551 WB

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 are the second messenger-regulated kinases such as c-AMP dependent protein kinase A and protein kinase C. The second are 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. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. Premont, R.T., Koch, W.J., Inglese, J., and Lefkowitz, R.J. 1994. Identification, purification, and characterization of GRK5, a member of the family of G protein-coupled receptor kinases. *J. Biol. Chem.* 269: 6832-6841.
7. 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.
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.

SOURCE

GRK 6 (96-165) is expressed in *E. coli* as a 35 kDa tagged fusion protein corresponding to amino acids 96-165 of GRK 6 of human origin.

PRODUCT

GRK 6 (96-165) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 10 μ g in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

GRK 6 (96-165) is suitable as a Western blotting control for sc-13080.

STORAGE

Store at -20°C ; stable for one year from the date of shipment.

RESEARCH USE

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