

GRK 1 (C-20): sc-561

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. Hausdorff, W.P., et al. 1990. Turning off the signal: desensitization of β -adrenergic receptor function. *FASEB J.* 4: 2881-2889.
2. Lorenz, W., et al. 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., et al. 1991. Cloning, expression, and chromosomal localization of β -adrenergic receptor kinase 2. *J. Biol. Chem.* 266: 14939-14946.
4. Inglese, J., et al. 1993. Structure and mechanism of the G protein-coupled receptor kinases. *J. Biol. Chem.* 268: 23735-23738.
5. Liggett, S.B., et al. 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., et al. 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., et al. 1994. Identification, purification, and characterization of GRK5, a member of the family of G protein-coupled receptor kinases. *J. Biol. Chem.* 269: 6832-6841.

CHROMOSOMAL LOCATION

Genetic locus: GRK1 (human) mapping to 13q34; Grk1 (mouse) mapping to 8 A1.1.

SOURCE

GRK 1 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of GRK 1 of bovine origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-561 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

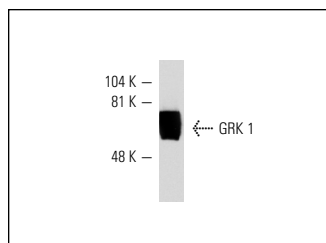
GRK 1 (C-20) is recommended for detection of GRK 1 of bovine and, to a lesser extent, mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GRK 1 siRNA (h): sc-29336, GRK 1 siRNA (m): sc-35512, GRK 1 shRNA Plasmid (h): sc-29336-SH, GRK 1 shRNA Plasmid (m): sc-35512-SH, GRK 1 shRNA (h) Lentiviral Particles: sc-29336-V and GRK 1 shRNA (m) Lentiviral Particles: sc-35512-V.

Molecular Weight of GRK 1: 70 kDa.

Positive Controls: Y79 cell lysate: sc-2240.

DATA



GRK 1 (C-20): sc-561. Western blot analysis of GRK 1 expression in bovine retina rod outer segment suspension.

SELECT PRODUCT CITATIONS

1. Lombardi, M.S., et al. 2004. Hypoxia/ischemia modulates G protein-coupled receptor kinase 2 and β -Arrestin-1 levels in the neonatal rat brain. *Stroke* 35: 981-986.
2. Imai, H., et al. 2007. Molecular properties of rhodopsin and rod function. *J. Biol. Chem.* 282: 6677-6684.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **GRK 1 (D11): sc-56910**, our highly recommended monoclonal alternative to GRK 1 (C-20).