

GRK 5 (C-20): sc-565

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.

CHROMOSOMAL LOCATION

Genetic locus: GRK5 (human) mapping to 10q26.11; Grk5 (mouse) mapping to 19 D3.

SOURCE

GRK 5 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of GRK 5 of human 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-565 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GRK 5 (C-20) is recommended for detection of GRK 5 of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GRK 5 (C-20) is also recommended for detection of GRK 5 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GRK 5 siRNA (h): sc-39042, GRK 5 siRNA (m): sc-39043, GRK 5 shRNA Plasmid (h): sc-39042-SH, GRK 5 shRNA Plasmid (m): sc-39043-SH, GRK 5 shRNA (h) Lentiviral Particles: sc-39042-V and GRK 5 shRNA (m) Lentiviral Particles: sc-39043-V.

Molecular Weight of GRK 5: 65 kDa.

Positive Controls: rat brain extract: sc-2392.

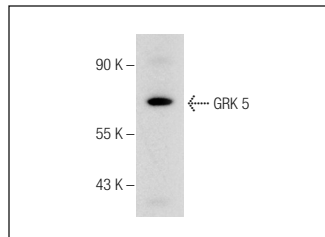
STORAGE

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

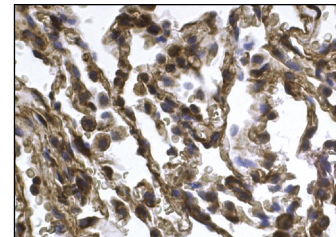
RESEARCH USE

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

DATA



GRK 5 (C-20): sc-565. Western blot analysis of GRK 5 expression in rat brain tissue extract.



GRK 5 (C-20): sc-565. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing cytoplasmic and nuclear staining of macrophages and pneumocytes cells.

SELECT PRODUCT CITATIONS

1. Pronin, A.N., et al. 1997. Regulation of the G protein-coupled receptor kinase GRK 5 by protein kinase C. *J. Biol. Chem.* 272: 3806-3812.
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3. Violin, J.D., et al. 2008. β_2 -Adrenergic receptor signaling and desensitization elucidated by quantitative modeling of real time cAMP dynamics. *J. Biol. Chem.* 283: 2949-2961.
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5. Liu, P., et al. 2010. G protein-coupled receptor kinase 5, overexpressed in the α -synuclein up-regulation model of Parkinson's disease, regulates Bcl-2 expression. *Brain Res.* 1307: 134-141.
6. García-Sevilla, J.A., et al. 2010. Reduced platelet G protein-coupled receptor kinase 2 in major depressive disorder: antidepressant treatment-induced upregulation of GRK2 protein discriminates between responder and non-responder patients. *Eur. Neuropsychopharmacol.* 20: 721-730.
7. Bychkov, E.R., et al. 2011. Reduced expression of G protein-coupled receptor kinases in schizophrenia but not in schizoaffective disorder. *Neurobiol. Dis.* 44: 248-258.
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9. Soltysinska, E., et al. 2011. Chronic sympathetic activation promotes downregulation of β -adrenoceptor-mediated effects in the guinea pig heart independently of structural remodeling and systolic dysfunction. *Pflugers Arch.* 462: 529-543.