SANTA CRUZ BIOTECHNOLOGY, INC.

GRK 2 (C-15): sc-562

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (βARK, βARK1) and GRK 3 (βARK2); 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: ADRBK1 (human) mapping to 11q13.2; Adrbk1 (mouse) mapping to 19 A.

SOURCE

GRK 2 (C-15) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of GRK 2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-562 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose (sc-562 AC) conjugate for immunoprecipitation, 500 µg/0.25 ml agarose in 1 ml.

APPLICATIONS

GRK 2 (C-15) is recommended for detection of GRK 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

GRK 2 (C-15) is also recommended for detection of GRK 2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GRK 2 siRNA (h): sc-29337, GRK 2 siRNA (m): sc-35513, GRK 2 shRNA Plasmid (h): sc-29337-SH, GRK 2 shRNA Plasmid (m): sc-35513-SH, GRK 2 shRNA (h) Lentiviral Particles: sc-29337-V and GRK 2 shRNA (m) Lentiviral Particles: sc-35513-V.

Molecular Weight of GRK 2: 80 kDa.

Positive Controls: Ramos cell lysate: sc-2216, HL-60 whole cell lysate: sc-2209 or GRK 2 (h2): 293T Lysate: sc-115352.

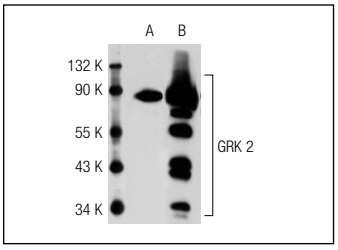
RESEARCH USE

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

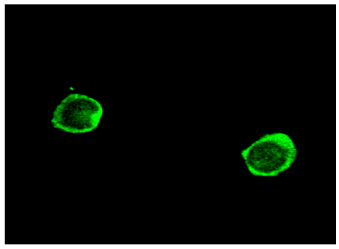
STORAGE

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

DATA



GRK 2 (C-15): sc-562. 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.



GRK 2 (C-15): sc-562. Immunofluorescence staining of methanol-fixed HL-60 cells showing cytoplasmic and membrane staining.

SELECT PRODUCT CITATIONS

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2. Haley, J.E., et al. 1998. The α subunit of G_q contributes to muscarinic inhibition of the M-type potassium current in sympathetic neurons. J. Neurosci. 18: 4521-4531.
3. Delmas, P., et al. 1998. On the role of endogenous G protein βγ subunits in N-type Ca^{2+} current inhibition by neurotransmitters in rat sympathetic neurones. J. Physiol. 506: 319-329.
4. Fernandez, N., et al. 2011. Roles of phosphorylation-dependent and -independent mechanisms in the regulation of histamine H2 receptor by G protein-coupled receptor kinase 2. J. Biol. Chem. 286: 28697-28706.
5. 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.
6. Ghosh, M. and Schonbrunn, A. 2011. Differential temporal and spatial regulation of somatostatin receptor phosphorylation and dephosphorylation. J. Biol. Chem. 286: 13561-13573.
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.
8. Moulédous, L., et al. 2012. GRK2 protein-mediated transphosphorylation contributes to loss of function of μ-opioid receptors induced by neuropeptide FF (NPFF2) receptors. J. Biol. Chem. 287: 12736-12749.