SANTA CRUZ BIOTECHNOLOGY, INC.

GRK 4 (A-5): sc-9985

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: GRK4 (human) mapping to 4p16.3; Grk4 (mouse) mapping to 5 B2.

SOURCE

GRK 4 (A-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 475-497 at the C-terminus of GRK 4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GRK 4 (A-5) is available conjugated to agarose (sc-9985 AC), 500 µg/0.25 ml agarose in 1 ml, for IP.

Blocking peptide available for competition studies, sc-9985 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

GRK 4 (A-5) is recommended for detection of GRK 4 α, β, γ and δ isoforms 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), 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).

Suitable for use as control antibody for GRK 4 siRNA (h): sc-35516, GRK 4 siRNA (m): sc-35517, GRK 4 shRNA Plasmid (h): sc-35516-SH, GRK 4 shRNA Plasmid (m): sc-35517-SH, GRK 4 shRNA (h) Lentiviral Particles: sc-35516-V and GRK 4 shRNA (m) Lentiviral Particles: sc-35517-V.

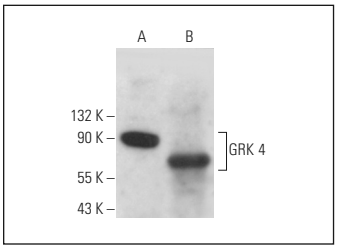
Molecular Weight of GRK 4: 60 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, RAW 264.7 whole cell lysate: sc-2211 or rat testis extract: sc-2400.

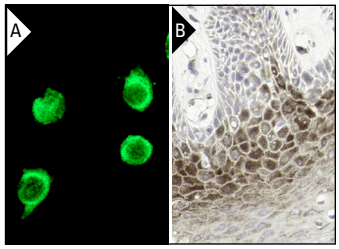
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



GRK 4 (A-5): sc-9985. Western blot analysis of GRK 4 expression in RAW 264.7 whole cell lysate (**A**) and rat testis tissue extract (**B**).



GRK 4 (A-5): sc-9985. Immunofluorescence staining of methanol-fixed RAW 264.7 cells showing cytoplasmic and membrane staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing cytoplasmic staining of surface epithelial cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Chen, G., et al. 2003. Protein profiles associated with survival in lung adenocarcinoma. Proc. Natl. Acad. Sci. USA 100: 13537-13542.
2. Wang, F.L., et al. 2012. Renoprotective effects of berberine and its possible molecular mechanisms in combination of high-fat diet and low-dose streptozotocin-induced diabetic rats. Mol. Biol. Rep. 40: 2405-2418.
3. Lansford, J.L., et al. 2018. Computational modeling and confirmation of leukemia-associated minor histocompatibility antigens. Blood Adv. 2: 2052-2062.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.