

GRK 4 (D-11): sc-376891

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.

REFERENCES

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- 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.
- Benovic, J.L., et al. 1991. Cloning, expression, and chromosomal localization of β -adrenergic receptor kinase 2. *J. Biol. Chem.* 266: 14939-14946.
- Inglese, J., et al. 1993. Structure and mechanism of the G protein-coupled receptor kinases. *J. Biol. Chem.* 268: 23735-23738.
- 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.

CHROMOSOMAL LOCATION

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

SOURCE

GRK 4 (D-11) is a mouse monoclonal antibody raised against amino acids 81-150 mapping near the N-terminus of GRK 4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GRK 4 (D-11) is available conjugated to agarose (sc-376891 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376891 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376891 PE), fluorescein (sc-376891 FITC), Alexa Fluor[®] 488 (sc-376891 AF488), Alexa Fluor[®] 546 (sc-376891 AF546), Alexa Fluor[®] 594 (sc-376891 AF594) or Alexa Fluor[®] 647 (sc-376891 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-376891 AF680) or Alexa Fluor[®] 790 (sc-376891 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

GRK 4 (D-11) is recommended for detection of GRK 4 α , β , γ and δ isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

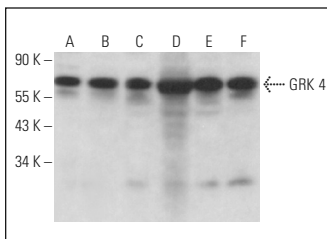
Molecular Weight of GRK 4: 60 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, BJAB whole cell lysate: sc-2207 or RAW 264.7 whole cell lysate: sc-2211.

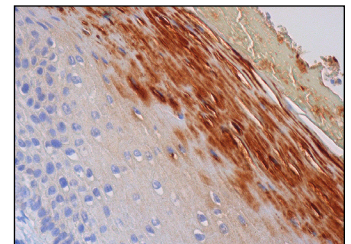
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



GRK 4 (D-11): sc-376891. Western blot analysis of GRK 4 expression in MCF7 (A), Jurkat (B), IMR-32 (C), BJAB (D) and RAW 264.7 (E) whole cell lysates and rat testis tissue extract (F).



GRK 4 (D-11): sc-376891. Immunoperoxidase staining of formalin fixed, paraffin-embedded human uterine cervix tissue showing cytoplasmic staining of squamous epithelial cells.

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.