

GRK 2 (C-9): sc-13143

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: ADRBK1 (human) mapping to 11q13.2; Adrbk1 (mouse) mapping to 19 A.

SOURCE

GRK 2 (C-9) is a mouse monoclonal antibody raised against amino acids 468-689 of GRK 2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GRK 2 (C-9) is available conjugated to agarose (sc-13143 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13143 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13143 PE), fluorescein (sc-13143 FITC), Alexa Fluor[®] 488 (sc-13143 AF488), Alexa Fluor[®] 546 (sc-13143 AF546), Alexa Fluor[®] 594 (sc-13143 AF594) or Alexa Fluor[®] 647 (sc-13143 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-13143 AF680) or Alexa Fluor[®] 790 (sc-13143 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

GRK 2 (C-9) is recommended for detection of GRK 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:200-1:2,000), 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 2 siRNA (h): sc-29337, GRK 2 siRNA (m): sc-35513, GRK 2 siRNA (r): sc-270408, GRK 2 shRNA Plasmid (h): sc-29337-SH, GRK 2 shRNA Plasmid (m): sc-35513-SH, GRK 2 shRNA Plasmid (r): sc-270408-SH, GRK 2 shRNA (h) Lentiviral Particles: sc-29337-V, GRK 2 shRNA (m) Lentiviral Particles: sc-35513-V and GRK 2 shRNA (r) Lentiviral Particles: sc-270408-V.

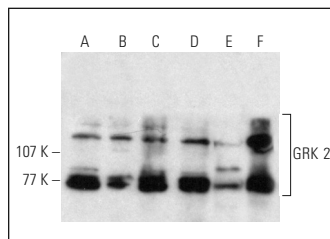
Molecular Weight of GRK 2: 80 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, HL-60 whole cell lysate: sc-2209 or HL-60 nuclear extract: sc-2147.

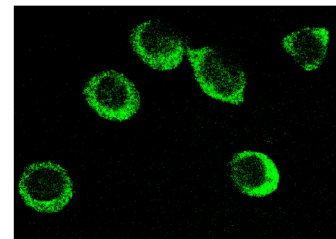
STORAGE

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-9) HRP: sc-13143 HRP. Direct western blot analysis of GRK 2 expression in MOLT-4 (A), AML-193 (B), CCRF-CEM (C), HL-60 (D) and WEHI-3 (E) whole cell lysates and HL-60 nuclear extract (F).



GRK 2 (C-9): sc-13143. Immunofluorescence staining of methanol-fixed RAW 264.7 cells showing cytoplasmic and membrane staining.

SELECT PRODUCT CITATIONS

- Vinge, L.E., et al. 2001. Myocardial distribution and regulation of GRK and β -arrestin isoforms in congestive heart failure in rats. *Am. J. Physiol. Heart Circ. Physiol.* 281: H2490-H2499.
- Hernández-Pinto, A.M., et al. 2009. α -tocopherol decreases the somatostatin receptor-effector system and increases the cyclic AMP/cyclic AMP response element binding protein pathway in the rat dentate gyrus. *Neuroscience* 162: 106-117.
- Nedi, T., et al. 2011. Tissue dependent differences in G protein-coupled receptor kinases associated with 5-HT4 receptor desensitization in the rat gastro-intestinal tract. *Biochem. Pharmacol.* 81: 123-133.
- Deiss, K., et al. 2012. Raf kinase inhibitor protein (RKIP) dimer formation controls its target switch from Raf1 to G protein-coupled receptor kinase (GRK) 2. *J. Biol. Chem.* 287: 23407-23417.
- Hernández-Pinto, A.M., et al. 2013. Vitamin E deficiency impairs the somatostatinergic receptor-effector system and leads to phosphotyrosine phosphatase overactivation and cell death in the rat hippocampus. *J. Nutr. Biochem.* 24: 848-858.
- Zhao, Z., et al. 2016. An essential role for GRK 2 in hedgehog signalling downstream of smoothened. *EMBO Rep.* 17: 739-752.
- Machhada, A., et al. 2017. Vagal determinants of exercise capacity. *Nat. Commun.* 8: 15097.
- Zhang, Q.H., et al. 2018. Proinflammatory switch from G α_s to G α_i signaling by Glucagon-like peptide-1 receptor in murine splenic monocyte following burn injury. *Inflamm. Res.* 67: 157-168.

RESEARCH USE

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

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