# SANTA CRUZ BIOTECHNOLOGY, INC.

# GRK 2 (C-20): sc-18409



# 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  $\beta$ -adrenergic receptor kinase, GRK 2 ( $\beta$ ARK,  $\beta$ ARK1) and GRK 3 ( $\beta$ 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 b-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.
- 4. Inglese, J., et al. 1993. Structure and mechanism of the G protein-coupled receptor kinases. J. Biol. Chem. 268: 23735-23738.
- 5. Liggett, S.B., et al. 1993. Structural basis for receptor subtype-specific regulation revealed by a chimeric  $\beta$  3 $\beta$  2-adrenergic receptor. Proc. Natl. Acad. Sci. USA 90: 3665-3669.
- 6. Pei, G., et al. 1994. An approach to the study of G-protein-coupled receptor kinases: an *in vitro*-purified membrane assay reveals differential receptor specificity and regulation by G  $\beta$   $\gamma$  subunits. Proc. Natl. Acad. Sci. USA 91: 3633-3636.
- 7. Premont, R.T., et al. 1994. Identifi-cation, purification, and characterization of GRK5, a member of the family of G protein-coupled receptor kinases. J. Biol. Chem. 269: 6832-6841.

# CHROMOSOMAL LOCATION

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

# SOURCE

GRK 2 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of GRK 2 of human origin.

# PRODUCT

Each vial contains 200  $\mu g$  lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-18409 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

#### **APPLICATIONS**

GRK 2 (C-20) 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-20) is also recommended for detection of GRK 2 in additional species, including equine, canine, bovine, porcine and avian.

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: HeLa whole cell lysate: sc-2200, HL-60 whole cell lysate: sc-2209 or GRK 2 (h): 293T Lysate: sc-111619.

#### DATA





GRK 2 (C-20): sc-18409. Western blot analysis of GRK 2 expression in non-transfected: sc-117752 (**A**) and human GRK 2 transfected: sc-111619 (**B**) 293T whole cell lysates. GRK 2 (C-20): sc-18409. 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.

# STORAGE

Store at 4° C, \*\*D0 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.

#### **PROTOCOLS**

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

# MONOS Satisfation Guaranteed

Try GRK 2 (C-9): sc-13143 or GRK 2 (F-9): sc-166284, our highly recommended monoclonal aternatives to GRK 2 (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see GRK 2 (C-9): sc-13143.