SANTA CRUZ BIOTECHNOLOGY, INC.

cGKIα(E-17): sc-10338

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

cGKII (cGMP-dependent protein kinase type II) is a major receptor of intracellular cGMP, and mediates a plethora of physiological responses. cGKII contains a conserved leucine zipper motif at the amino-terminus. It is expressed in small intestine, colon, prostate, and human brain tissues, and the cGKII gene maps to chromosome 4q13.1-q21.1. cGKII has been shown to regulate the ion transport system in the intestine. Myristoylation of the penultimate glycine in cGKII appears to be essential for directing cGKII to the membrane, since cGKII is devoid of any hydrophobic transmembrane domains. The translocation of cGKII from the cytosol to the membrane allows it to function properly in regulating intestinal ion transport. cGMP-dependent protein kinase 1 (cGKI) lowers the intracellular level of calcium and is therefore considered important for the relaxation of vascular smooth muscle. There are two isoforms of cGKI, α and β, which differ only in their N-terminal sequence.

REFERENCES

1. Gamm, D.M., et al. 1995. The type II isoform of cGMP-dependent protein kinase is dimeric and possesses regulatory and catalytic properties distinct from the type I isoforms. J. Biol. Chem. 270: 27380-27388.
2. Tamura, N., et al. 1996. cDNA cloning and gene expression of human type I α cGMP-dependent protein kinase. Hypertension 27: 552-557.
3. Vaandrager, A.B., et al. 1996. Signalling by cGMP-dependent protein kinases. Mol. Cell. Biochem. 157: 23-30.

CHROMOSOMAL LOCATION

Genetic locus: PRKG1 (human) mapping to 10q11.23.

SOURCE

cGKIα(E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of cGKIα 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-10338 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

cGKIα(E-17) is recommended for detection of cGKIα of 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).

cGKIα(E-17) is also recommended for detection of cGKIα in additional species, including equine, canine, bovine and porcine.

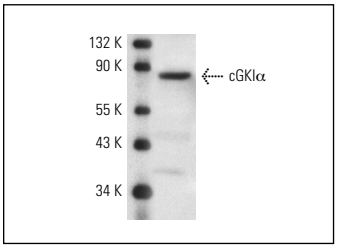
Molecular Weight of cGKIα: 75 kDa.

Positive Controls: HISM cell lysate: sc-2229.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



cGKIα (E-17): sc-10338. Western blot analysis of cGKIα expression in HISM whole cell lysate.

SELECT PRODUCT CITATIONS

1. Sand, A., et al. 2006. Nitric oxide donors mediate vasodilation in human placental arteries partly through a direct effect on potassium channels. Placenta 27: 181-190.
2. Waldkirch, E.S., et al. 2007. Immunohistochemical distribution of cyclic GMP-dependent protein kinase-1 in human prostate tissue. Eur. Urol. 52: 495-501.
3. Waldkirch, E., et al. 2008. Expression and distribution of cyclic GMP-dependent protein kinase-1 isoforms in human penile erectile tissue. J. Sex. Med. 5: 536-543.

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.