

pki γ (G-20): sc-85826

BACKGROUND

The second messenger cyclic AMP (cAMP) mediates a diverse array of cellular responses such as proliferation, ion transport, regulation of metabolism and gene transcription by activating the cAMP-dependent protein kinase (cAPK or PKA). Protein kinase inhibitors are potent inhibitors of the catalytic subunit of PKAs. Pki γ (cAMP-dependent protein kinase inhibitor γ) is a 76 amino acid protein that inhibits catalytic subunit-dependent transcription and efficiently terminates nuclear PKA activity. Knockdown of the mRNA encoding pki γ substantially extends the anti-apoptotic effect of parathyroid hormone and β -adrenergic agonists. This evidence suggests that inhibition of pki γ activity may be a useful co-therapy in the treatment of osteoporosis. Pki γ is highly expressed in skeletal muscle, testis and heart.

REFERENCES

- Collins, S.P. and Uhler, M.D. 1997. Characterization of pki γ , a novel isoform of the protein kinase inhibitor of cAMP-dependent protein kinase. *J. Biol. Chem.* 272: 18169-18178.
- Zheng, L., et al. 2000. Cloning and mapping of human pki β and pki γ , and comparison of tissue expression patterns of three members of the protein kinase inhibitor family, including pki α . *Biochem. J.* 349: 403-407.
- Taylor, S.S., et al. 2004. PKA: a portrait of protein kinase dynamics. *Biochim. Biophys. Acta* 1697: 259-269.
- Online Mendelian Inheritance in Man, OMIM[™]. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 604932. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Taylor, S.S., et al. 2005. Dynamics of signaling by PKA. *Biochim. Biophys. Acta* 1754: 25-37.
- Chen, X., et al. 2005. Endogenous protein kinase inhibitor γ terminates immediate-early gene expression induced by cAMP-dependent protein kinase (PKA) signaling: termination depends on PKA inactivation rather than PKA export from the nucleus. *J. Biol. Chem.* 280: 2700-2707.

CHROMOSOMAL LOCATION

Genetic locus: PKIG (human) mapping to 20q13.12; Pki γ (mouse) mapping to 2 H3.

SOURCE

pki γ (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of pki γ of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-85826 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

pki γ (G-20) is recommended for detection of pki γ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 pki γ siRNA (h): sc-106417, pki γ siRNA (m): sc-155936, pki γ shRNA Plasmid (h): sc-106417-SH, pki γ shRNA Plasmid (m): sc-155936-SH, pki γ shRNA (h) Lentiviral Particles: sc-106417-V and pki γ shRNA (m) Lentiviral Particles: sc-155936-V.

Molecular Weight (predicted) of pki γ : 8 kDa.

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) 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.

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.