SANTA CRUZ BIOTECHNOLOGY, INC.

pki α (H-55): sc-50349

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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). Activation of PKA occurs when cAMP binds to the two regulatory subunits of tetrameric PKA, resulting in the release of two active catalytic subunits. Two forms of a specific PKA inhibitor molecule, designated pki α and pki β, have been described and are suggested to regulate PKA activity in different portions of the central nervous system. For instance, pki α is expressed abundantly in the adult mouse brain, particularly in the cerebellum, hypothalamus, hippocampus and cortex. In constrast, pki β is present at a much lower level in most brain regions and is found in significant amounts only in the cerebellum and in a few distinct nuclei within the pons, medulla and hypothalamus.

REFERENCES

1. Beavo, J.A., et al. 1974. Activation of protein kinase by physiological concentrations of cyclic AMP. Proc. Natl. Acad. Sci. USA 71: 3580-3583.
2. Krebs, E.G. and Beavo, J.A. 1980. Phosphorylation and dephosphorylation of enzymes. Annu. Rev. Biochem. 48: 923-959.
3. Maldonado, F. and Hanks, S.K. 1988. cAMP-dependent protein kinase, α-catalytic subunit. Nucleic. Acids Res. 16: 8189-8190.
4. Beebe, S.J., et al. 1990. cAMP-dependent protein kinase, β-catalytic subunit. Mol. Endocrinol. 4: 465-475.
5. Meinkoth, J.L., et al. 1993. Signal transduction through the cAMP-dependent protein kinase. Mol. Cell. Biochem. 127-128: 179-186.

CHROMOSOMAL LOCATION

Genetic locus: PKIA (human) mapping to 8q21.12; Pkia (mouse) mapping to 3 A1.

SOURCE

pki α (H-55) is a rabbit polyclonal antibody raised against amino acids 22-76 mapping at the C-terminus of pki α 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.

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.

PROTOCOLS

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

APPLICATIONS

pki α (H-55) is recommended for detection of pki α 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), 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).

pki α (H-55) is also recommended for detection of pki α in additional species, including equine, canine, bovine and porcine.

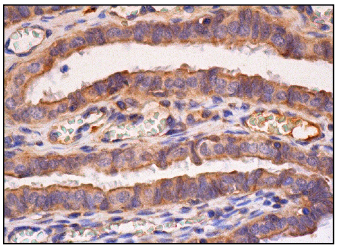
Suitable for use as control antibody for pki α siRNA (h): sc-44021, pki α siRNA (m): sc-60045, pki α shRNA Plasmid (h): sc-44021-SH, pki α shRNA Plasmid (m): sc-60045-SH, pki α shRNA (h) Lentiviral Particles: sc-44021-V and pki α shRNA (m) Lentiviral Particles: sc-60045-V.

Molecular Weight of pki α: 8 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



pki α (H-55): sc-50349. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Fassi Fehri, L., et al. 2010. *Helicobacter pylori* induces miR-155 in T cells in a cAMP-Foxp3-dependent manner. PLoS ONE 5: e9500.
2. Gangoda, L., et al. 2012. Cre transgene results in global attenuation of the cAMP/PKA pathway. Cell Death Dis. 3: e365.