SANTA CRUZ BIOTECHNOLOGY, INC.

PKAα/β/γ cat (H-56): sc-98951

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The second messenger cyclic AMP (cAMP) mediates diverse cellular responses to external signals such as proliferation, ion transport, regulation of metabolism and gene transcription by activation of cAMP-dependent protein kinases (cAPKs or PKAs). Activation of PKAs occurs when cAMP binds to the two regulatory subunits of the tetrameric PKA holoenzyme, resulting in release of active catalytic subunits. Three catalytic subunits of the PKA holoenzyme exist and are designated PKAα cat, PKAβ cat and PKAγ cat, each of which represent specific gene products. PKAα cat and PKAβ cat are closely related (93% amino acid sequence similarity), whereas PKAγ cat displays 83% and 79% similarity to PKAα cat and PKAβ cat, respectively. Activation of transcription upon elevation of cAMP levels results from translocation of PKA to the nucleus, where it phosphorylates CREB, leading to TFIIB-TBP1 binding and, ultimately, the linking of phospho-CREB to the Pol II transcription initiation complex.

SOURCE

PKA α/β/γ cat (H-56) is a rabbit polyclonal antibody raised against amino acids 231-286 mapping near the C-terminus of PKAα catalytic subunit 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

PKA α/β/γ cat (H-56) is recommended for detection of PKAα/β cat of mouse, rat and human origin and PKAγ cat 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), 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).

PKAα/β/γ cat (H-56) is also recommended for detection of PKAα/β/γ cat in additional species, including equine, canine, bovine, porcine and avian.

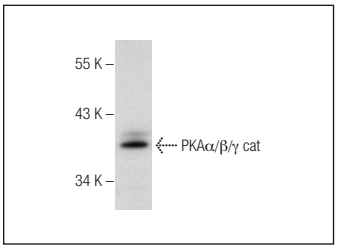
Molecular Weight of PKA α/β/γ cat: 40 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

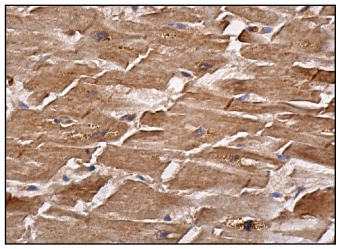
RECOMMENDED SECONDARY REAGENTS

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



PKAα/β/γ cat (H-56): sc-98951. Western blot analysis of PKAα/β/γ cat expression in NIH/3T3 whole cell lysate.



PKAα/β/γ cat (H-56): sc-98951. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Li, X.D., et al. 2010. Tongxinluo reduces myocardial no-reflow and ischemia-reperfusion injury by stimulating the phosphorylation of eNOS via the PKA pathway. Am. J. Physiol. Heart Circ. Physiol. 299: H1255-H1261.
2. Somvanshi, R.K., et al. 2011. Receptor specific crosstalk and modulation of signaling upon heterodimerization between β1-adrenergic receptor and somatostatin receptor-5. Cell. Signal. 23: 794-811.
3. Liu, L., et al. 2012. Influenza A virus induces interleukin-27 through cyclooxygenase-2 and protein kinase A signaling. J. Biol. Chem. 287: 11899-11910.
4. Grossini, E., et al. 2014. Asenapine increases nitric oxide release and protects porcine coronary artery endothelial cells against peroxidation. Vascul. Pharmacol. 60: 127-141.