PKAγ cat (C-20): sc-905

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 the cAMP-dependent protein kinase (cAPK or PKA). Activation of PKA occurs when cAMP binds to the two regulatory subunits of the tetrameric PKA holoenzyme resulting in release of active catalytic subunits. Three catalytic (C) subunits have been identified, designated Cα, Cβ and Cγ, that each represent specific gene products. Cα and Cβ are closely related (93% amino acid sequence similarity), whereas Cγ displays 83% and 79% similarity to Cα and Cβ, respectively. Activation of transcription upon elevation of cAMP levels results from translocation of PKA to the nucleus where it phosphorylates the transcription factor cAMP response element binding protein (CREB) on Serine 133 which in turn leads to TFII B binding to TATA-box-binding protein TBP1, thus linking phospho-CREB to the pol II transcription initiation complex.

CHROMOSOMAL LOCATION

Genetic locus: PRKACG (human) mapping to 9q21.11.

SOURCE

PKAγ cat (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of PKAγ cat 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-905 P (100 µg peptide in 0.5 ml PBS containing <0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PKAγ cat (C-20) is recommended for detection of PKAγ catalytic subunit of mouse, rat, human and mink 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); partially cross-reactive with α and β.

PKAγ cat (C-20) is also recommended for detection of PKAγ catalytic subunit in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for PKAγ cat siRNA (h): sc-36236, PKAγ cat siRNA (m): sc-36237, PKAγ cat shRNA Plasmid (h): sc-36236-SH, PKAγ cat shRNA Plasmid (m): sc-36237-SH, PKAγ cat shRNA (h) Lentiviral Particles: sc-36236-V and PKAγ cat shRNA (m) Lentiviral Particles: sc-36237-V.

Molecular Weight of PKAγ cat: 39-40 kDa.

Positive Controls: human breast tissue, mouse brain extract: sc-2253 or NIH/3T3 whole cell lysate: sc-2210.

STORAGE

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

DATA

PKAγ cat (C-20) sc-905. Western blot analysis of PKAγ catalytic subunit expression in mouse brain extract (A), NIH/3T3 (B), PKR (C), Me 1 Lu (D), MCF7 (E), MCF7-F (F), 5-5 (G) and ASH (H) whole cell lysates.

PKAγ cat (C-20) sc-905. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tissue showing cytoplasmic staining.

SELECT PRODUCT CITATIONS


RESEARCH USE

For research use only, not for use in diagnostic procedures.