

PDE11A (C-17): sc-82306

BACKGROUND

cAMP and cGMP are 3',5'-cyclic nucleotides that function as second messengers in a wide variety of signaling pathways throughout the cell. The hydrolysis of cAMP and cGMP to their corresponding 5'-monophosphates (5'-AMP and 5'-GMP, respectively) is catalyzed by 3',5'-cyclic nucleotide phosphodiesterases (PDEs), which provide a means of downregulating cAMP and cGMP signaling. PDE11A (phosphodiesterase 11A), also known as PPNAD2, is a 934 amino acid cytoplasmic protein that belongs to the PDE family. Expressed as four isoforms that exhibit different tissue specificity, PDE11A contains two GAF domains through which it functions to catalyze the H₂O-dependent conversion of cAMP and cGMP to their hydrolyzed forms. PDE11A activity is pH-dependent and is regulated by the binding of free cGMP (which acts as an allosteric activator) to the GAF domains, an event that stimulates enzyme activity. Defects in the gene encoding PDE11A are the cause of primary pigmented nodular adrenocortical disease type 2 (PPNAD2), a bilateral adrenal defect that leads to endocrine-related Cushing syndrome.

REFERENCES

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- Wong, M.L., et al. 2006. Phosphodiesterase genes are associated with susceptibility to major depression and antidepressant treatment response. *Proc. Natl. Acad. Sci. USA* 103: 15124-15129.
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CHROMOSOMAL LOCATION

Genetic locus: PDE11A (human) mapping to 2q31.2; Pde11a (mouse) mapping to 2 C3.

SOURCE

PDE11A (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PDE11A 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-82306 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PDE11A (C-17) is recommended for detection of PDE11A 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); non cross-reactive with other PDE family members.

PDE11A (C-17) is also recommended for detection of PDE11A in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for PDE11A siRNA (h): sc-76095, PDE11A siRNA (m): sc-76096, PDE11A shRNA Plasmid (h): sc-76095-SH, PDE11A shRNA Plasmid (m): sc-76096-SH, PDE11A shRNA (h) Lentiviral Particles: sc-76095-V and PDE11A shRNA (m) Lentiviral Particles: sc-76096-V.

Molecular Weight of PDE11A isoforms: 65-78 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.

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.