

PDE11A (B-7): sc-365655

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

1. Hetman, J.M., et al. 2000. Cloning and characterization of two splice variants of human phosphodiesterase 11A. *Proc. Natl. Acad. Sci. USA* 97: 12891-12895.
2. Loughney, K., et al. 2005. 3',5'-cyclic nucleotide phosphodiesterase 11A: localization in human tissues. *Int. J. Impot. Res.* 17: 320-325.
3. D'Andrea, M.R., et al. 2005. Expression of PDE11A in normal and malignant human tissues. *J. Histochem. Cytochem.* 53: 895-903.
4. Horvath, A., et al. 2006. Adrenal hyperplasia and adenomas are associated with inhibition of phosphodiesterase 11A in carriers of PDE11A sequence variants that are frequent in the population. *Cancer Res.* 66: 11571-11575.

CHROMOSOMAL LOCATION

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

SOURCE

PDE11A (B-7) is a mouse monoclonal antibody raised against amino acids 373-535 mapping within the GAF1 domain of PDE11A of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PDE11A (B-7) is available conjugated to agarose (sc-365655 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365655 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365655 PE), fluorescein (sc-365655 FITC), Alexa Fluor® 488 (sc-365655 AF488), Alexa Fluor® 546 (sc-365655 AF546), Alexa Fluor® 594 (sc-365655 AF594) or Alexa Fluor® 647 (sc-365655 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365655 AF680) or Alexa Fluor® 790 (sc-365655 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PDE11A (B-7) is recommended for detection of PDE11A of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

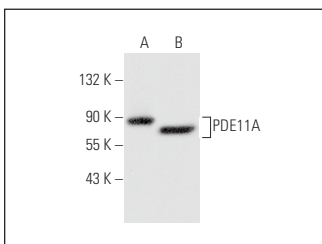
Molecular Weight of PDE11A isoforms: 65-78 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, rat brain extract: sc-2392 or Hep G2 cell lysate: sc-2227.

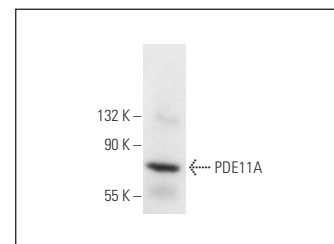
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PDE11A (B-7): sc-365655. Western blot analysis of PDE11A expression in rat brain tissue extract (A) and Hep G2 whole cell lysate (B).



PDE11A (B-7): sc-365655. Western blot analysis of PDE11A expression in PC-3 whole cell lysate.

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 for detailed protocols and support products.