

# PDE9A (D-7): sc-376271

## BACKGROUND

Phosphodiesterases (PDEs) also designated cyclic nucleotide phosphodiesterases, are important for the downregulation of the intracellular level of the second messenger cyclic adenosine monophosphate (cAMP) by hydrolyzing cAMP to 5'AMP. Phosphodiesterase 9A (PDE9A) is a 593 amino acid protein that plays a role in signal transduction via regulation of the intracellular concentration of cyclic nucleotides and has a high affinity for cGMP. There are 15 known isoforms of PDE9A. It is expressed in various tissues including testis, brain, small intestine, skeletal muscle, heart, lung, thymus, spleen, placenta, kidney, liver, pancreas, ovary and prostate. Highest levels of PDE9A expression occur in brain, kidney, spleen, colon, heart and colon, while there is no detection of PDE9A in blood. PDE9A is composed of an N-terminal regulatory domain and a C-terminal catalytic domain containing two possible divalent metal sites. It may be implicated in affective bipolar disorder.

## REFERENCES

1. Shimamoto, Y., et al. 1977. Squamous cell carcinoma of the thymus. An analysis of eight cases. *Am. J. Surg. Pathol.* 1: 109-121.
2. Soderling, S.H., et al. 1998. Identification and characterization of a novel family of cyclic nucleotide phosphodiesterases. *J. Biol. Chem.* 273: 15553-15558.

## CHROMOSOMAL LOCATION

Genetic locus: PDE9A (human) mapping to 21q22.3; Pde9a (mouse) mapping to 17 B1.

## SOURCE

PDE9A (D-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 225-263 within an internal region of PDE9A of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PDE9A (D-7) is available conjugated to agarose (sc-376271 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376271 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376271 PE), fluorescein (sc-376271 FITC), Alexa Fluor® 488 (sc-376271 AF488), Alexa Fluor® 546 (sc-376271 AF546), Alexa Fluor® 594 (sc-376271 AF594) or Alexa Fluor® 647 (sc-376271 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376271 AF680) or Alexa Fluor® 790 (sc-376271 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376271 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## STORAGE

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

## APPLICATIONS

PDE9A (D-7) is recommended for detection of PDE9A 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), 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).

PDE9A (D-7) is also recommended for detection of PDE9A in additional species, including canine and porcine.

Suitable for use as control antibody for PDE9A siRNA (h): sc-61313, PDE9A siRNA (m): sc-61314, PDE9A siRNA (r): sc-270131, PDE9A shRNA Plasmid (h): sc-61313-SH, PDE9A shRNA Plasmid (m): sc-61314-SH, PDE9A shRNA Plasmid (r): sc-270131-SH, PDE9A shRNA (h) Lentiviral Particles: sc-61313-V, PDE9A shRNA (m) Lentiviral Particles: sc-61314-V and PDE9A shRNA (r) Lentiviral Particles: sc-270131-V.

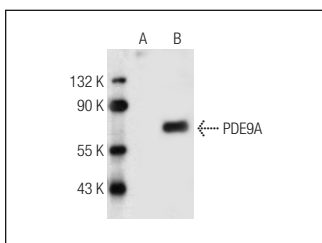
Molecular Weight of PDE9A: 69 kDa.

Positive Controls: mouse spleen extract: sc-2391 or PDE9A (h2): 293 Lysate: sc-158830.

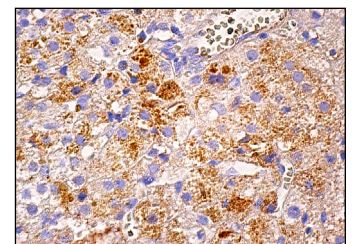
## RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



PDE9A (D-7): sc-376271. Western blot analysis of PDE9A expression in non-transfected: sc-110760 (A) and human PDE9A transfected: sc-158830 (B) 293 whole cell lysates.



PDE9A (D-7): sc-376271. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

## RESEARCH USE

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