

# PDE9A (I-17): sc-50268

## 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, 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

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3. Fisher, D.A., et al. 1998. Isolation and characterization of PDE9A, a novel human cGMP-specific phosphodiesterase. *J. Biol. Chem.* 273: 15559-15564.
4. Guipponi, M., et al. 1998. Identification and characterization of a novel cyclic nucleotide phosphodiesterase gene (PDE9A) that maps to 21q22.3: alternative splicing of mRNA transcripts, genomic structure and sequence. *Hum. Genet.* 103: 386-392.
5. Rentero, C., et al. 2003. Identification and distribution of different mRNA variants produced by differential splicing in the human phosphodiesterase 9A gene. *Biochem. Biophys. Res. Commun.* 301: 686-692.
6. Wang, P., et al. 2003. Identification and characterization of a new human type 9 cGMP-specific phosphodiesterase splice variant (PDE9A5). Differential tissue distribution and subcellular localization of PDE9A variants. *Gene* 314: 15-27.
7. Huai, Q., et al. 2004. Crystal structure of phosphodiesterase 9 shows orientation variation of inhibitor 3-isobutyl-1-methylxanthine binding. *Proc. Natl. Acad. Sci. USA* 101: 9624-9629.

## CHROMOSOMAL LOCATION

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

## SOURCE

PDE9A (I-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PDE9A of human origin.

## STORAGE

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

## 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-50268 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PDE9A (I-17) is recommended for detection of PDE9A of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

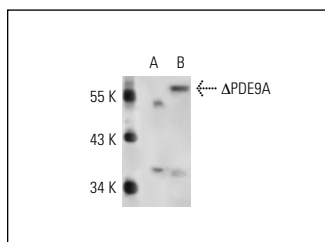
PDE9A (I-17) is also recommended for detection of PDE9A in additional species, including equine, canine, bovine, porcine and avian.

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

Molecular Weight of PDE9A: 68.5 kDa.

Positive Controls: PDE9A (h): 293 lysate: sc-111170 or mouse spleen extract: sc-2391.

## DATA



PDE9A (I-17): sc-50268. Western blot analysis of PDE9A expression in non-transfected: sc-110760 (A) and truncated human PDE9A transfected: sc-111170 (B) 293 whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.