

PDE4D (P-16): sc-25098

BACKGROUND

Phosphodiesterases (PDE) hydrolyze cAMP to 5'AMP and thus play a critical role in the regulation of intracellular cAMP. Division of the PDE superfamily by sequence homology and enzymatic properties yields 11 PDE families. A unique upstream conserved region (UCR) characterizes the PDE4 family. Four separate genes (A-D) encode the PDE4 enzymes, and alternative splicing generates short or long isoforms of each gene. Long PDE4 isoforms contain both UCR1 and UCR2 while short PDE4 isoforms possess only UCR2. Both UCR domains are necessary for dimerization of PDE4 isoforms. The human PDE4A gene maps to chromosome 19p13.2 and spans 50 kilobases with 17 exons. The splice variants include isoforms PDE4A1-6.

REFERENCES

1. Bolger, G., Michaeli, T., Martins, T., St John, T., Steiner, B., Rodgers, L., Riggs, M., Wigler, M. and Ferguson, K. 1993. A family of human phosphodiesterases homologous to the dunce learning and memory gene product of *Drosophila melanogaster* are potential targets for antidepressant drugs. *Mol. Cell. Biol.* 13: 6558-6571.
2. Horton, Y.M., Sullivan, M. and Houslay, M.D. 1995. Molecular cloning of a novel splice variant of human type IVA (PDE-IVA) cyclic AMP phosphodiesterase and localization of the gene to the p13.2-q12 region of human chromosome 19 [corrected]. *Biochem. J.* 308: 683-691.
3. Francis, S.H., Turko, I.V. and Corbin, J.D. 2001. Cyclic nucleotide phosphodiesterases: relating structure and function. *Prog. Nucleic Acid Res. Mol. Biol.* 65: 1-52.
4. Richter, W. and Conti, M. 2002. Dimerization of the type 4 cAMP-specific phosphodiesterases is mediated by the upstream conserved regions (UCRs). *J. Biol. Chem.* 277: 40212-40221.

CHROMOSOMAL LOCATION

Genetic locus: PDE4D (human) mapping to 5q11.2; Pde4d (mouse) mapping to 13 D2.1.

SOURCE

PDE4D (P-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PDE4D isoform 1 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-25098 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

PDE4D (P-16) is recommended for detection of PDE4D isoforms 1, 2 and 6 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), 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).

PDE4D (P-16) is also recommended for detection of PDE4D isoforms 1, 2 and 6 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PDE4D siRNA (h): sc-44004, PDE4D siRNA (m): sc-152130, PDE4D shRNA Plasmid (h): sc-44004-SH, PDE4D shRNA Plasmid (m): sc-152130-SH, PDE4D shRNA (h) Lentiviral Particles: sc-44004-V and PDE4D shRNA (m) Lentiviral Particles: sc-152130-V.

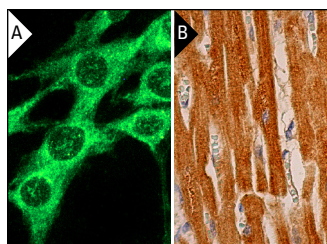
Molecular Weight of PDE4D isoforms 1/2/3/4/5/6: 68/95/119/105/65 kDa.

Positive Controls: Sol8 cell lysate: sc-2249.

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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



PDE4D (P-16): sc-25098. Immunofluorescence staining of methanol-fixed Sol8 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes (B).

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.