

References for Product 11640

1. Marchand C, Lea WA, Jadhav A, Dexheimer TS, Austin CP, Inglese J, Pommier Y, Simeonov A. (2009) Identification of phosphotyrosine mimetic inhibitors of human tyrosyl-DNA phosphodiesterase I by a novel AlphaScreen high-throughput assay. *Mol Cancer Ther*, 8, 240.
2. Dallas C, Gerbi A, Tenca G, Juchaux F, Bernard FX. (2008) Lipolytic effect of a polyphenolic citrus dry extract of red orange, grapefruit, orange (SINETROL) in human body fat adipocytes. Mechanism of action by inhibition of cAMP-phosphodiesterase (PDE). *Phytomedicine*, 15, 783.
3. Dell'Agli M, Maschi O, Galli GV, Fagnani R, Dal Cero E, Caruso D, Bosisio E. (2008) Inhibition of platelet aggregation by olive oil phenols via cAMP-phosphodiesterase. *Br J Nutr*, 99, 945.
4. Kaiho Y, Nishiguchi J, Kwon DD, Chancellor MB, Arai Y, Snyder PB, Yoshimura N. (2008) The effects of a type 4 phosphodiesterase inhibitor and the muscarinic cholinergic antagonist tolterodine tartrate on detrusor overactivity in female rats with bladder outlet obstruction. *BJU Int*, 101, 615.
5. Teramoto S, Yamamoto H, Yamaguchi Y, Ishii M, Hibi S, Kume H, Ouchi Y. (2008) Antiplatelet cilostazol, an inhibitor of type III phosphodiesterase, improves swallowing function in patients with a history of stroke. *J Am Geriatr Soc*, 56, 1153.
6. Fujimura M, Liu Q. (2007) Selective inhibitors for phosphodiesterase 3 and 4 in antigen-induced increase of cough reflex sensitivity in guinea pigs. *Pulm Pharmacol Ther*, 20, 543.
7. Ghanem E, Li Y, Xu C, Raushel FM. (2007) Characterization of a phosphodiesterase capable of hydrolyzing EA 2192, the most toxic degradation product of the nerve agent VX. *Biochemistry*, 46, 9032.
8. Keppetipola N, Shuman S. (2007) Characterization of the 2',3' cyclic phosphodiesterase activities of *Clostridium thermocellum* polynucleotide kinase-phosphatase and bacteriophage lambda phosphatase. *Nucleic Acids Res*, 35, 7721.
9. Rucker B, Almeida ME, Libermann TA, Zerbini LF, Wink MR, Sarkis JJ. (2007) Biochemical characterization of ecto-nucleotide pyrophosphatase/phosphodiesterase (E-NPP, E.C. 3.1.4.1) from rat heart left ventricle. *Mol Cell Biochem*, 306, 247.
10. Ho SM, Tang WY, Belmonte de Frausto J, Prins GS. (2006) Developmental exposure to estradiol and bisphenol A increases susceptibility to prostate carcinogenesis and epigenetically regulates phosphodiesterase type 4 variant 4. *Cancer Res*, 66, 5624.
11. Iba T, Kidokoro A, Fukunaga M, Takuhiro K, Ouchi M, Ito Y. (2006) Comparison of the protective effects of type III phosphodiesterase (PDE3) inhibitor (cilostazol) and acetylsalicylic acid on intestinal microcirculation after ischemia reperfusion injury in mice. *Shock*, 26, 522.
12. Nakamura K, Ikomi F, Ohhashi T. (2006) Cilostazol, an inhibitor of type 3 phosphodiesterase, produces endothelium-independent vasodilation in pressurized rabbit cerebral penetrating arterioles. *J Vasc Res*, 43, 86.
13. Zalatan JG, Fenn TD, Brunger AT, Herschlag D. (2006) Structural and functional comparisons of nucleotide pyrophosphatase/phosphodiesterase and alkaline phosphatase: implications for mechanism and evolution. *Biochemistry*, 45, 9788.
14. Bobrov AG, Kirillina O, Perry RD. (2005) The phosphodiesterase activity of the HmsP EAL domain is required for negative regulation of biofilm formation in *Yersinia pestis*. *FEMS Microbiol Lett*, 247, 123.
15. Dell'Agli M, Galli GV, Vrhovsek U, Mattivi F, Bosisio E. (2005) In vitro inhibition of human cGMP-specific phosphodiesterase-5 by polyphenols from red grapes. *J Agric Food Chem*, 53, 1960.
16. Engelhardt T, MacDonald J, Galley HF, Webster NR. (2005) Selective phosphodiesterase 5 inhibition does not reduce propofol sedation requirements but affects speed of recovery and plasma cyclic guanosine 3',5'-monophosphate concentrations in healthy volunteers. *Anesth Analg*, 101, 1050.

17. Mancina R, Filippi S, Marini M, Morelli A, Vignozzi L, Salonia A, Montorsi F, Mondaini N, Vannelli GB, Donati S, Lotti F, Forti G, Maggi M. (2005) Expression and functional activity of phosphodiesterase type 5 in human and rabbit vas deferens. *Mol Hum Reprod*, 11, 107.
18. Odashima M, Otaka M, Jin M, Komatsu K, Konishi N, Wada I, Horikawa Y, Matsuhashi T, Ohba R, Oyake J, Hatakeyama N, Watanabe S. (2005) Rolipram, a specific type IV phosphodiesterase inhibitor, ameliorates aspirin-induced gastric mucosal injury in rats. *Dig Dis Sci*, 50, 1097.
19. Zhang L, Balcerzak M, Radisson J, Thouverey C, Pikula S, Azzar G, Buchet R. (2005) Phosphodiesterase activity of alkaline phosphatase in ATP-initiated Ca(2+) and phosphate deposition in isolated chicken matrix vesicles. *J Biol Chem*, 280, 37289.
20. Chen JC, Chen JQ, Xie QM, Zhu YL. (2004) Selective inhibition of purified human phosphodiesterase 4A expressed in yeast cell GL62 by ciclamilast, piclamilast, and rolipram. *Acta Pharmacol Sin*, 25, 1171.
21. Choudhary MI, Fatima N, Abbasi MA, Jalil S, Ahmad VU, Atta ur R. (2004) Phenolic glycosides, a new class of human recombinant nucleotide pyrophosphatase phosphodiesterase-1 inhibitors. *Bioorg Med Chem*, 12, 5793.
22. Vogel A, Schilling O, Meyer-Klaucke W. (2004) Identification of metal binding residues for the binuclear zinc phosphodiesterase reveals identical coordination as glyoxalase II. *Biochemistry*, 43, 10379.
23. Ahmad VU, Abbasi MA, Hussain H, Akhtar MN, Farooq U, Fatima N, Choudhary MI. (2003) Phenolic glycosides from *Symplocos racemosa*: natural inhibitors of phosphodiesterase I. *Phytochemistry*, 63, 217.
24. de Rosalmeida MC, Saraiva LD, da Graca JR, Ivo BB, da Nobrega MV, Gondim FA, Rola FH, dos Santos AA. (2003) Sildenafil, a phosphodiesterase-5 inhibitor, delays gastric emptying and gastrointestinal transit of liquid in awake rats. *Dig Dis Sci*, 48, 2064.
25. Loher F, Schmall K, Freytag P, Landauer N, Hallwachs R, Bauer C, Siegmund B, Rieder F, Lehr HA, Dauer M, Kapp JF, Endres S, Eigler A. (2003) The specific type-4 phosphodiesterase inhibitor mesopram alleviates experimental colitis in mice. *J Pharmacol Exp Ther*, 305, 549.
26. Tehara SK, Keasling JD. (2003) Gene Cloning, purification, and characterization of a phosphodiesterase from *Delphacid acidovorans*. *Appl Environ Microbiol*, 69, 504.
27. Chauret N, Guay D, Li C, Day S, Silva J, Blouin M, Ducharme Y, Yergey JA, Nicoll-Griffith DA. (2002) Improving metabolic stability of phosphodiesterase-4 inhibitors containing a substituted catechol: prevention of reactive intermediate formation and covalent binding. *Bioorg Med Chem Lett*, 12, 2149.
28. Jeffrey AM, Luo FQ, Amin S, Krzeminski J, Zech K, Williams GM. (2002) Lack of DNA binding in the rat nasal mucosa and other tissues of the nasal toxicants roflumilast, a phosphodiesterase 4 inhibitor, and a metabolite, 4-amino-3,5-dichloropyridine, in contrast to the nasal carcinogen 2,6-dimethylaniline. *Drug Chem Toxicol*, 25, 93.
29. Paramashivappa R, Phani Kumar P, Subba Rao PV, Srinivasa Rao A. (2002) Synthesis of sildenafil analogues from anacardic acid and their phosphodiesterase-5 inhibition. *J Agric Food Chem*, 50, 7709.
30. Fritsky IO, Ott R, Pritzkow H, Kramer R. (2001) An allosteric synthetic catalyst: metal ions tune the activity of an artificial phosphodiesterase. *Chemistry*, 7, 1221.
31. O'Brien PJ, Herschlag D. (2001) Functional interrelationships in the alkaline phosphatase superfamily: phosphodiesterase activity of *Escherichia coli* alkaline phosphatase. *Biochemistry*, 40, 5691.
32. Pernerstorfer T, Mayer N, Jilma B, Krenn CG, Bayer GS, Eichler HG. (1997) Does phosphodiesterase III inhibition reverse the cardiodepressive effects of propofol? *Anesth Analg*, 85, 725.
33. Rezende AA, Pizauro JM, Ciancaglini P, Leone FA. (1994) Phosphodiesterase activity is a novel property of alkaline phosphatase from osseous plate. *Biochem J*, 301 (Pt 2), 517.

34. Harvey B, Carstens M, Taljaard J. (1993) Absence of an effect of the lithium-induced increase in cyclic GMP on the cyclic GMP-stimulated phosphodiesterase (PDE II). Evidence for cyclic AMP-specific hydrolysis. *Neurochem Res*, 18, 1095.
35. Yamashita T, Masuda Y, Sakai T, Tanaka S, Kasuya Y. (1993) Inhibitory effect of NZ-105, a 1,4-dihydropyridine derivative, on cyclic nucleotide phosphodiesterase activity. *J Pharm Pharmacol*, 45, 530.
36. Harvey BH, Carstens ME, Taljaard JJ. (1992) Central effects of the preservative, methylparaben. In vivo activation of cAMP-specific phosphodiesterase and reduction of cortical cAMP. *Biochem Pharmacol*, 44, 1053.
37. Sok DE, Kim MR. (1992) A spectrophotometric assay of Zn(2+)-glycerophosphorylcholine phosphocholine phosphodiesterase using p-nitrophenylphosphorylcholine. *Anal Biochem*, 203, 201.
38. Suzuki M, Nikaido T, Ohmoto T. (1991) [The study of Chinese herbal medicinal prescription with enzyme inhibitory activity. V. The study of hange-shashin-to, kanzo-shashin-to, shokyo-shashin-to with adenosine 3',5'-cyclic monophosphate phosphodiesterase]. *Yakugaku Zasshi*, 111, 695.
39. Murray KJ, England PJ, Hallam TJ, Maguire J, Moores K, Reeves ML, Simpson AW, Rink TJ. (1990) The effects of siguazodan, a selective phosphodiesterase inhibitor, on human platelet function. *Br J Pharmacol*, 99, 612.
40. Yasuzawa T, Saitoh Y, Sano H. (1990) Structures of KS-501 and KS-502, the new inhibitors of Ca²⁺ and calmodulin-dependent cyclic nucleotide phosphodiesterase. *J Antibiot (Tokyo)*, 43, 336.
41. Kanfer JN, McCartney DG. (1989) GPC phosphodiesterase and phosphomonoesterase activities of renal cortex and medulla of control, antidiuresis and diuresis rats. *FEBS Lett*, 257, 348.
42. Nakanishi S, Ando K, Kawamoto I, Kase H. (1989) KS-501 and KS-502, new inhibitors of Ca²⁺ and calmodulin-dependent cyclic-nucleotide phosphodiesterase from *Sporothrix* sp. *J Antibiot (Tokyo)*, 42, 1049.
43. Coukell MB, Cameron AM. (1987) Effects of calcium antagonists on cyclic AMP phosphodiesterase induction in *Dictyostelium discoideum*. *J Cell Sci*, 88 (Pt 3), 379.
44. Lehotay DC, Gindler JS, Paul HS. (1987) Effects of clofibrate on malic enzyme and phosphodiesterase activities. *Horm Metab Res*, 19, 663.
45. Salimath BP, Satyanarayana MN. (1987) Inhibition of calcium and calmodulin-dependent phosphodiesterase activity in rats by capsaicin. *Biochem Biophys Res Commun*, 148, 292.
46. Hawley DM, Hodes MZ, Crisp M, Ellis G, Karn RC, Hodes ME. (1985) Characterization of phosphohydrolase activity in bovine spleen extracts: identification of a bis(p-nitrophenyl)phosphate-hydrolyzing activity (phosphodiesterase IV) which also acts on adenosine triphosphate. *Anal Biochem*, 151, 375.
47. Niewiarowski W, Uznanski B. (1985) Substrate specificity and stereospecificity of calf spleen phosphodiesterase towards deoxyribonucleosidyl 3'-(4-nitrophenyl phosphates) and phosphorothioates. *Eur J Biochem*, 153, 145.
48. Appleman MM, Allan EH, Ariano MA, Ong KK, Tusang CA, Weber HW, Whitson RH. (1984) Insulin control of cyclic AMP phosphodiesterase. *Adv Cyclic Nucleotide Protein Phosphorylation Res*, 16, 149.
49. Hawley DM, Schulz AR, Hodes ME. (1984) A comparative kinetic analysis of six substrates widely used for the detection and quantitation of phosphodiesterase I. *Enzyme*, 32, 105.
50. Kagan VE, Polianskii NB, Muranov KO, Shvedova AA, Smirnov LD. (1984) [Inhibition of platelet aggregation and cyclic nucleotide phosphodiesterase (specifically cyclAMP) by 3-hydroxypyridine derivatives]. *Biull Eksp Biol Med*, 97, 416.
51. Nikaido T, Ohmoto T, Nomura T, Fukai T, Sankawa U. (1984) Inhibition of adenosine 3',5'-cyclic monophosphate phosphodiesterase by phenolic constituents of mulberry tree. *Chem Pharm Bull (Tokyo)*, 32, 4929.
52. Strobl-Jager E, Kaliman J, Sinzinger H. (1984) Plasma factor and platelet sensitivity to prostacyclin in patients with peripheral vascular disease before and after treatment with a

- combination of a cyclooxygenase and a phosphodiesterase inhibitor. Prostaglandins Leukot Med, 15, 241.
53. Ueda M, Robinson FW, Smith MM, Kono T. (1984) Effects of divalent cations on the regulation of insulin-sensitive glucose transport and cAMP phosphodiesterase in adipocytes. Insulin-like effects of divalent cations. J Biol Chem, 259, 9520.
 54. Hertel C, Marme D. (1983) The fungicide chloraniformethan and the herbicide dichlofopmethyl affect calmodulin-dependent cyclic nucleotide phosphodiesterase from bovine brain. FEBS Lett, 152, 44.
 55. Kono T. (1983) Actions of insulin on glucose transport and cAMP phosphodiesterase in fat cells: involvement of two distinct molecular mechanisms. Recent Prog Horm Res, 39, 519.
 56. Moe OA, Jr., Butler LG. (1983) The catalytic mechanism of bovine intestinal 5'-nucleotide phosphodiesterase. pH and inhibition studies. J Biol Chem, 258, 6941.
 57. Balasubramanian A, Ramakrishnan S. (1982) c-AMP-phosphodiesterase activity in fat body & testes of male rats & effect of aspirin on the same. Indian J Exp Biol, 20, 77.
 58. Ewart RB. (1982) Inhibition of anterior pituitary cyclic AMP phosphodiesterase by colchicine and vinblastine. FEBS Lett, 141, 25.
 59. Boyes S, Allan EH, Loten EG. (1981) Energy-dependent activation and magnesium--dependent inactivation of hepatocyte hormone-sensitive phosphodiesterase. Biochim Biophys Acta, 672, 21.
 60. Curtis-Prior PB, Chan YH. (1981) Effects of polyphlorethin phosphate (PPP) and quinterenol of cyclic nucleotide phosphodiesterase activities. Pharmacol Res Commun, 13, 331.
 61. Radomski M, Swies J, Gryglewski RJ. (1981) Disaggregatory action of phosphodiesterase inhibitors. Pharmacol Res Commun, 13, 41.
 62. Vilageliu J, Freixes J, Giraldez A, Bermejo P, Basi N, Bruseghini L. (1981) Influence of plafibrade, an antiplatelet and hypolipemic agent, on prostacyclin and thromboxane synthesis, 3',5'-cyclic AMP phosphodiesterase activity and serum clearance of a lipid emulsion. Arzneimittelforschung, 31, 1805.
 63. Rachmilewitz D, Karmeli F, Okon E. (1980) Effects of bisacodyl on cAMP and prostaglandin E2 contents, (Na + K) ATPase, adenylyl cyclase, and phosphodiesterase activities of rat intestine. Dig Dis Sci, 25, 602.
 64. Vega FV, Key RJ, Jordan JE, Kono T. (1980) Reversal of insulin effects in fat cells may require energy for deactivation of glucose transport, but not deactivation of phosphodiesterase. Arch Biochem Biophys, 203, 167.
 65. Dolapchiev LB, Vassileva RA, Dimitrov D. (1979) Determination of phosphodiesterase activity in the presence of phosphomonoesterase using bis-p-nitrophenyl phosphate. Mol Biol Rep, 5, 185.
 66. Frielle T, Crimaldi AA, Coffee CJ. (1979) A continuous spectrophotometric assay for cyclic 3',5'-nucleotide phosphodiesterase. Anal Biochem, 97, 239.
 67. Moncada S, Korb R. (1978) Dipyridamole and other phosphodiesterase inhibitors act as antithrombotic agents by potentiating endogenous prostacyclin. Lancet, 1, 1286.
 68. Hynie I, Meuffels M, Poznanski WJ. (1975) Determination of phosphodiesterase I activity in human blood serum. Clin Chem, 21, 1383.
 69. Polya GM, Brownlee AG, Hynes MJ. (1975) Enzymology and genetic regulation of a cyclic nucleotide-binding phosphodiesterase-phosphomonoesterase from Aspergillus nidulans. J Bacteriol, 124, 693.
 70. Vincent JE, Zijlstra FJ, Bonta IL. (1975) The effect of non-steroid anti-inflammatory drugs, dibutyryl cyclic 3',5'-adenosine monophosphate and phosphodiesterase inhibitors on platelet aggregation and the platelet release reaction in normal and essential fatty acid deficient rats. Prostaglandins, 10, 899.
 71. Hamagishi Y, Yoshida H. (1974) Phosphodiesterase-phosphomonoesterases from Fusarium moniliforme. V. Mode of action on various nucleotides. J Biochem, 76, 81.
 72. Yoshida H. (1974) Phosphodiesterase-phosphomonoesterases from Fusarium moniliforme. IV. Kinetic studies. J Biochem, 75, 905.

73. Frischauf AM, Eckstein F. (1973) Purification of a phosphodiesterase from Bothrops atrox venom by affinity chromatography. *Eur J Biochem*, 32, 479.
74. Horwitz JP, Easwaran CV, Wolf PL. (1972) Substrates for cytochemical demonstration of enzyme activity. V. Kinetics of the hydrolysis of thymidine 3'-(5-bromo-4-chloroindol-3-yl) phosphate by phosphodiesterase II. *Biochim Biophys Acta*, 276, 206.
75. Lerch B, Wolf G. (1972) Isolation of phosphodiesterase from sugar beet leaves. *Biochim Biophys Acta*, 258, 206.
76. Lugnier C, Bertrand Y, Stoclet JC. (1972) Cyclic nucleotide phosphodiesterase inhibition and vascular smooth muscle relaxation. *Eur J Pharmacol*, 19, 134.
77. Szabo M, Burke G. (1972) Adenosine 3',5'-cyclic phosphate phosphodiesterase from bovine thyroid: isolation and properties of a partially purified, soluble fraction. *Biochim Biophys Acta*, 284, 208.
78. Shimada K, Sugino Y. (1969) Cyclic phosphodiesterase having 3'-nucleotidase activity from *Bacillus subtilis*. Purification and some properties of the enzyme. *Biochim Biophys Acta*, 185, 367.
79. Unemoto T, Takahashi F, Hayashi M. (1969) Relationship between the active sites of 2',3'-cyclic phosphodiesterase with 3'-nucleotidase activity purified from *Vibrio alginolyticus*. *Biochim Biophys Acta*, 185, 134.
80. Ito H, Hashimoto A, Matsumoto Y, Yao H, Miyakoda G. Cilostazol, a phosphodiesterase inhibitor, attenuates photothrombotic focal ischemic brain injury in hypertensive rats. *J Cereb Blood Flow Metab*, 30, 343.
81. Ren YW, Lu JX, Cai BW, Shi DB, Jiang HF, Chen J, Zheng D, Liu B. A novel asymmetric di-Ni(II) system as a highly efficient functional model for phosphodiesterase: synthesis, structures, physicochemical properties and catalytic kinetics. *Dalton Trans*, 40, 1372.
82. Wang YJ, Jiang YL, Tang HF, Zhao CZ, Chen JQ. ZI-n-91, a selective phosphodiesterase 4 inhibitor, suppresses inflammatory response in a COPD-like rat model. *Int Immunopharmacol*, 10, 252.