



Curriculum Vitae

John Pernow
Karolinska Institutet
Department of Cardiology
Karolinska University Hospital
171 76 Stockholm, Sweden
john.pernow@ki.se
Phone: +46 8 51775876
Mobile: +46 70 4848361

Present position

Professor of Cardiology, Department of Medicine, Karolinska Institutet	2008-
Academic chair Cardiology Unit, Department of Medicine Karolinska Institutet	2006-
Deputy Head Department of Medicine Karolinska Institutet	2015-
Senior consultant Department of Cardiology, Karolinska University Hospital	2001-

Previous employments

Clinical

Senior consultant in cardiology since	2001-
Chief of Coronary Care Unit, Karolinska Hospital	2001-2002
Consultant in Cardiology, Karolinska University Hospital	1997-2001
Internship Cardiology and Internal Medicine; Karolinska University Hospital	1992-1997
Licensed to medical degree	1991
Specialist competence in Cardiology achieved	1997
Specialist competence in Internal medicine achieved	1997
Specialist examination in cardiology issued by the Swedish Cardiology Association	1998

Academic

Clinical Senior Research Position, Swedish Research Council, Medicine 50%	2002-2008
Clinical research position in Cardiovascular Medicine, Research and Development Committee Karolinska Hospital	2001-2002
Associate Professor of Cardiology	1998
Post-doc clinical research position Swedish Research Council	1992-1995
Associate Professor of Pharmacology	1991
PhD student department of Pharmacology, Karolinska Institutet	1985-1988

Supervision of PhD students and postdocs

Main supervisor of 9 PhD students who have completed their doctoral thesis (Qingdon Wang 1994, Adrian Gonon 2000, Felix Böhm 2002, Andrey Gourine 2004, Alexander Bulhak 2007, Magnus Settergren 2009, Alexey Shemyakin 2010, Peder Sörensson 2011, Christian Jung 2015).
Co-supervisor of 2 PhD student (1994 and 2015).
Currently main supervisor of 3 PhD students.
Supervisor of 3 previous and 3 current postdocs.



Research grants

Currently holding research grants from as PI:

Swedish Research Council 1 MSEK/year 2012-2016

Swedish Heart Lung Foundation 1.1 MSEK/year 2014-2016

Stockholm County Council/ALF 0.6 MSEK/year 2014-2016

European Association for the Study of Diabetes 1.8 MSEK 2013-2015

Diabetes Wellness Research Foundation 2 MSEK 2015-2017

Novo Nordisk Foundation 0.5 MSEK 2015

Co-applicant:

Stockholm County Council/Karolinska Institutet Cardiovascular Theme Program 9 MSEK/year 2010-2015 (PI Jesper Haeggström, Ulf Hedin)

Swedish Heart Lung Foundation 0.4 MSEK/year 2015-2017 (PI Nawsad Saleh)

Stockholm County Council/ALF 0.6 MSEK/year 2015-2016 (PI Nawsad Saleh)

Commissions

Vice Chair Department of Medicine, Karolinska Institutet 2015-

Member of the scientific evaluation panel Swedish Research Council 2015-

Member of scientific evaluation committee ALF grants Lund/Malmö 2013-

Chairman of the Research and Development Board,

Department of Cardiology, Karolinska University Hospital 2007-

Member of the board for Research and Development Karolinska University Hospital 2007-2009

Vice-chairman Karolinska Institute network for Circulation and Respiration 2006-2011

Member of Scientific Board, Swedish Heart and Lung Foundation 2005-2011

Scientific secretary at Research and Development Committee, Karolinska Hospital 2001-2003

Publications

Author of 158 original peer-reviewed papers in the field of cardiovascular biology and ischemic heart disease. Number of citations 6215, h-index 43.

Original publications John Pernow

No of citations 6215, h-index 43

1. Lundberg JM, Änggård A, Theodorsson-Norheim E, **Pernow J**. Guanethedine-sensitive release of neuropeptide Y-like immunoreactivity in the cat spleen by sympathetic nerve stimulation. *Neurosci Lett* 1984;52:175-180.
2. Lundberg JM, Änggård A, **Pernow J**, Hökfelt T. Neuropeptide Y-, substance P- and VIP-immunoreactive nerves in cat spleen in relation to autonomic vascular and volume control. *Cell Tissue Res* 1985;239:9-18.
3. Lundberg JM, **Pernow J**, Tatemoto K, Dahlöf C. Pre- and postjunctional effects of neuropeptide Y on sympathetic vascular control of rat femoral artery. *Acta Physiol Scand* 1985;123:511-513.
4. Lundberg JM, Torsell L, Sollevi A, **Pernow J**, Theodorsson-Norheim E, Änggård A, Hamberger B. Neuropeptide Y and sympathetic vascular control in man. *Regul Peptides* 1985;13:41-52.
5. **Pernow J**, Saria A, Lundberg JM. Mechanism underlying pre- and postjunctional effects of neuropeptide Y in sympathetic vascular control. *Acta Physiol Scand* 1986;126:239-249.



6. Lundberg JM, Fried G, **Pernow J**, Theodorsson-Norheim E. Co-release of neuropeptide Y and catecholamines upon adrenal activation in the cat. *Acta Physiol Scand* 1986;126:231-238.
7. Lundberg JM, Hökfelt T, Hemsén A, Theodorsson-Norheim E, **Pernow J**, Hamberger B, Goldstein M. Neuropeptide Y-like immunoreactivity in adrenal cells of adrenal medulla and in tumors and plasma of pheochromocytoma patients. *Regul Peptides* 1986;13:169-182.
8. Lundberg JM, Fried G, **Pernow J**, Theodorsson-Norheim E, Ånggård A. NPY - a mediator of reserpine-resistant, non-adrenergic vasoconstriction in cat spleen after preganglionic denervation? *Acta Physiol Scand* 1986;126:151-152.
9. **Pernow J**, Lundberg JM, Kaijser L, Hjemdahl, Theodorsson-Norheim E, Martinsson A, Pernow B. Plasma neuropeptide Y-like immunoreactivity and catecholamines during various degrees of sympathetic activation in man. *Clin Physiol* 1986;6:561-578.
10. **Pernow J**, Lundberg JM. Neuropeptide Y constricts human skeletal muscle arteries via a nifedipine-sensitive mechanism independent of extracellular calcium? *Acta Physiol Scand* 1986;128:655-656.
11. **Pernow J**, Lundberg JM, Kaijser L. Vasoconstrictor effects in vivo and plasma disappearance rate of neuropeptide Y in man. *Life Sci* 1987;40:47-54.
12. **Pernow J**, Svenberg T, Lundberg JM. Actions of calcium antagonists on pre- and postjunctional effects of neuropeptide Y on human blood vessels in vitro. *Europ J Pharmacol* 1987;136:207-218.
13. Franco-Cereceda A, Gennari C, Nami R, Agnusdei D, **Pernow J**, Lundberg JM, Fischer JA. Cardiovascular effects of calcitonin gene-related peptides-I and -II in man. *Circ Res* 1987;60:393-397.
14. **Pernow J**, Lundberg JM, Kaijser L. Phentolamine- and clonidine-induced changes in plasma neuropeptide Y-like immunoreactivity during sympathetic activation in man. *Clin Physiol* 1987;7:431-434.
15. Lundberg JM, **Pernow J**, Fried G, Ånggård A. Neuropeptide Y and noradrenaline mechanisms in relation to reserpine-induced impairment of sympathetic neurotransmission in the cat spleen. *Acta Physiol Scand* 1987;131:1-10.
16. **Pernow J**, Öhlén A, Hökfelt T, Nilsson O, Lundberg JM. Neuropeptide Y: presence in perivascular noradrenergic neurons and effects on skeletal muscle vessels in experimental animals and man. *Regul Peptides* 1987;19:313-324.
17. **Pernow J**, Kahan T, Hjemdahl P, Lundberg JM. Possible involvement of neuropeptide Y in sympathetic vascular control of canine skeletal muscle. *Acta Physiol Scand* 1988;132:43-50.
18. Eckberg DL, Rea RF, Andersson OK, Hedner T, **Pernow J**, Lundberg JM, Wallin BG. Baroreflex modulation of sympathetic activity and sympathetic neurotransmitters in humans. *Acta Physiol Scand* 1988;133:221-231.
19. **Pernow J**, Lundberg JM, Kaijser L. α -Adrenoceptor influence on plasma levels of neuropeptide Y-like immunoreactivity and catecholamines during rest and sympathoadrenal activations in humans. *J Cardiovasc Pharmacol* 1988;12:593-599.
20. **Pernow J**, Thorén P, Millberg BI, Lundberg JM. Renal sympathetic nerve activation in relation to reserpine induced depletion of neuropeptide Y in the rat. *Acta Physiol Scand* 1988;134:53-59.
21. **Pernow J**, Kahan T, Lundberg JM. Neuropeptide Y and reserpine-resistant vasoconstriction upon sympathetic nerve stimulation in dog skeletal muscle. *Br J Pharmacol* 1988;94:952-960.
22. Mejia JA, **Pernow J**, von Holst H, Rudehill A, Lundberg JM. Effects of neuropeptide Y, calcitonin gene-related peptide, substance P and capsaicin on cerebral arteries in animals and man. *J Neurosurg* 1988;69:913-918.
23. Kahan T, **Pernow J**, Schwieler J, Wallin B G, Lundberg JM, Hjemdahl P. Noradrenaline release evoked by the physiological irregular sympathetic nerve discharge is modulated by prejunctional alpha- and beta-adrenoceptors in vivo. *Br J Pharmacol* 1988;95:1101-1108.
24. **Pernow J**, Lundberg JM. Neuropeptide Y induces potent contraction of arterial vascular smooth muscle via an endothelium-independent mechanism. *Acta Physiol Scand* 1988;134:157-158.
25. **Pernow J**, Boutier JF, Franco-Cereceda A, Lacroix JS, Matran R, Lundberg JM. Potent selective vasoconstrictor effects of endothelin in the pig kidney in vivo. *Acta Physiol Scand* 1988;134:573-574.



26. **Pernow J.** Actions of constrictor (NPY and endothelin) and dilator (SP, CGRP and VIP) peptides on pig splenic and human skeletal muscle arteries: Involvement of the endothelium. *Br J Pharmacol* 1989;97:983-989.
27. **Pernow J.** Characterization of the cardiovascular actions of endothelin in vivo: comparisons with neuropeptide Y and angiotensin II. *Acta Physiol Scand* 1989;137:421-426.
28. **Pernow J, Franco-Cereceda A, Matran R, Lundberg JM.** Effect of endothelin-I on regional vascular resistances in the pig. *J Cardiovasc Pharmacol* 1989;13:S205-S206.
29. **Pernow J, Hemsén A, Lundberg JM.** Tissue specific distribution, clearance and vascular effects of endothelin in the pig. *Biochem Biophys Res Comm* 1989;161:647-653.
30. **Pernow J, Hemsén A, Lundberg JM.** Increased plasma levels of endothelin-like immunoreactivity during endotoxin administration in the pig. *Acta Physiol Scand* 1989;137:317-318.
31. **Pernow J, Lundberg JM.** Release and vasoconstrictor effects of neuropeptide Y in relation to non-adrenergic sympathetic control of renal blood flow in the pig. *Acta Physiol Scand* 1989;136:507-517.
32. **Pernow J, Lundberg JM.** Modulation of noradrenaline and neuropeptide Y (NPY) release in the pig kidney in vivo: involvement of α_2 , NPY and angiotensin II receptors. *Naynyn-Schmiedeberg's Arch Pharmacol* 1989;340:379-385.
33. **Pernow J, Lundberg JM, Kaijser L.** Effect of oral administration of nifedipine on neuropeptide Y - and noradrenaline-evoked vasoconstriction in the human forearm. *Clin Physiol* 1989;9:67-75.
34. **Pernow J, Lundberg JM.** Endothelin-like immunoreactivity is released from the pig spleen during asphyxia. *Acta Physiol Scand* 1989;137:553-554.
35. **Pernow J, Schwieler J, Kahan T, Hjemedahl P, Oberle J, Wallin BG, Lundberg JM.** Influence of sympathetic discharge pattern on norepinephrine and neuropeptide Y release. *Am J Physiol* 1989;257:H866-H872.
36. Rudehill A, Franco-Cereceda A, Hemsén A, **Pernow J, Lundberg JM.** Cigarette smoke induced elevation of plasma neuropeptide Y levels in man. *Clin Physiol* 1989;9:243-248.
37. Kaijser L, **Pernow J, Berglund B, Lundberg JM.** Neuropeptide Y is released together with noradrenaline from the human heart during exercise and hypoxia. *Clin Physiol* 1990;10:189-198.
38. **Pernow J, Hemsén A, Hallén A, Lundberg JM.** Release of endothelin-like immunoreactivity in relation to neuropeptide Y and noradrenaline during endotoxin shock and asphyxia in the pig. *Acta Physiol Scand* 1990;140:311-322.
39. Hemsén A, **Pernow J, Lundberg JM.** Regional extraction of endothelins and conversion of big endothelin to endothelin-1 in the pig. *Acta Physiol Scand* 1991;141:325-334.
40. Hemsén A, **Pernow J, Millberg B-I, Lundberg JM.** Effects of vinblastine on neuropeptide Y in the sympathoadrenal system and in thrombocytes of the rat. *Agents Actions* 1991;34:3/4:429-438.
41. Modin A, **Pernow J, Lundberg JM.** Evidence for two neuropeptide Y receptors mediating vasoconstriction. *Europ J Pharmacol* 1991;203:165-171.
42. Modin A, **Pernow J, Lundberg JM.** Phosphoramidon inhibits the vasoconstrictor effects evoked by big endothelin-1 but not the elevation of plasma endothelin-1 in vivo. *Life Sci* 1991;49:1619-1625.
43. **Pernow J, Hemsén A, Hallén A, Lundberg JM.** Vascular effects, formation, clearance and release of endothelin peptides in the pig. *Neurochem Int* 1991;18:515-518.
44. **Pernow J, Hemsén A, Lundberg JM, Nowak J, Kaijser L.** Potent vasoconstrictor effects and clearance of endothelin in the human forearm. *Acta Physiol Scand* 1991;141:319-324.
45. **Pernow J, Modin A, Lundberg JM.** No effect of D-myo-inositol-1,2,3 triphosphate on vasoconstriction evoked by neuropeptide Y and non-adrenergic sympathetic nerve stimulation. *Europ J Pharmacol* 1992;222:171-174.
46. Modin A, **Pernow J, Lundberg JM.** Sympathetic regulation of skeletal muscle blood flow in the pig in vivo: a large non-adrenergic component likely to be mediated by neuropeptide Y. *Acta Physiol Scand* 1993;148:1-11.
47. Modin A, **Pernow J, Lundberg JM.** Neuropeptide Y and differential control of splenic blood flow and capacitance function in the pig and dog. *Acta Physiol Scand* 1993;147:15-25.



48. Modin A, **Pernow J**, Lundberg JM. Comparison of the acute influence of neuropeptide Y and sympathetic stimulation on the composition of blood cells in the splenic vein in vivo. *Regul Peptides* 1993;47:159-169.
49. **Pernow J**, Modin A. Endothelial regulation of coronary vascular tone in vitro: contribution of endothelin receptor subtypes and nitric oxide. *Europ J Pharmacol* 1993;234:281-286.
50. **Pernow J**, Uriuda Y, Wang Q-D, Li X-S, Nordlander R, Rydén L. The protective effect of L-arginine on myocardial injury and endothelial function following ischaemia and reperfusion in the pig. *Europ Heart J* 1994;15:1712-1719.
51. Modin A, **Pernow J**, Lundberg JM. Repeated renal and splenic sympathetic nerve stimulation in anaesthetized pigs: Maintained overflow of neuropeptide Y in controls but not after reserpine. *J Auton Nerv Syst* 1994;49:123-134.
52. Kaijser L, **Pernow J**, Berglund B, Grubbström J, Lundberg JM. Neuropeptide Y release from human heart is enhanced during prolonged exercise in hypoxia. *J Appl Physiol* 1994;76:3:1346-1349.
53. Wang Q-D, Li X-S, **Pernow J**. Characterization of endothelin-1-induced vascular effects in the rat heart by using endothelin receptor antagonists. *Europ J Pharmacol* 1994;271:25-30.
54. Wang Q-D, Hemsén A, Li X-S, Lundberg JM, Uriuda Y, **Pernow J**. Local overflow and enhanced tissue content of endothelin by myocardial ischemia and reperfusion in the pig: Modulation by L-arginine. *Cardiovasc Res* 1995;29:44-49.
55. Wang Q-D, Li X-S, Lundberg JM, **Pernow J**. Protective effects of non-peptide endothelin receptor antagonist bosentan on myocardial ischaemic and reperfusion injury in the pig. *Cardiovasc Res* 1995;29:805-812.
56. Wang Q-D, Li X-S, **Pernow J**. The nonpeptide endothelin receptor antagonist bosentan enhances myocardial and endothelial function during reperfusion of the ischemic rat heart. *J Cardiovasc Pharmacol* 1995;26:S445-S447.
57. Wang Q-D, Uriuda Y, **Pernow J**, Hemsén A, Sjöquist P-O, Rydén L. Myocardial release of endothelin (ET) and enhanced ET_A receptor-mediated coronary vasoconstriction after coronary thrombosis and thrombolysis in pigs. *J Cardiovasc Pharmacol* 1995;26:770-776.
58. Li X-S, Wang Q-D, **Pernow J**. Beneficial effects of the endothelin receptor antagonist bosentan on myocardial and endothelial injury following ischaemia/reperfusion in the rat heart. *Europ J Pharmacol* 1995;283:161-168.
59. Li X-S, Uriuda Y, Wang Q-D, Nordlander R, Sjöquist P-O, **Pernow J**. Role of L-arginine in preventing myocardial and endothelial injury following ischemia/reperfusion in the isolated rat heart. *Acta Physiol Scand* 1996;156:37-44.
60. Modin A, **Pernow J**, Lundberg JM. Prejunctional regulation of reserpine-resistant sympathetic vasoconstriction and release of neuropeptide Y in the pig. *J Auton Nerv Syst* 1996;57:13-21.
61. **Pernow J**, Kaijser L, Lundberg JM, Ahlborg G. Comparable potent coronary constrictor effects of endothelin-1 and big endothelin-1 in humans. *Circulation* 1996;94:2077-2082.
62. Wang Q-D, Morcos E, Wiklund P, **Pernow J**. L-arginine enhances functional recovery and Ca²⁺-dependent nitric oxide synthase activity after ischaemia and reperfusion in rat heart. *J Cardiovasc Pharmacol* 1997;29:291-296.
63. **Pernow J**, Ahlborg G, Lundberg JM, Kaijser L. Long-lasting coronary vasoconstrictor effects and myocardial uptake of endothelin-1 in humans. *Acta Physiol Scand* 1997;159:147-153.
64. Wang QD, Gonon A, Shimizu M, Sjöquist P-O, **Pernow J**. Contribution of endothelin to the coronary vasoconstriction in the isolated rat heart induced by nitric oxide synthase inhibition. *Acta Physiol Scand* 1998;163:325-330.
65. Gonon A, Wang QD, **Pernow J**. The novel non-peptide selective endothelin A receptor antagonist LU 135253 protects against myocardial ischaemic and reperfusion injury in the pig. *Acta Physiol Scand* 1998;163:131-137.
66. Gonon A, Wang QD, **Pernow J**. The endothelin A receptor antagonist LU 135252 protects the myocardium from neutrophil injury during ischemia/reperfusion. *Cardiovasc Res* 1998;39:674-682.
67. Johansson BL, **Pernow J**. C-peptide potentiates the vasoconstrictor effect of neuropeptide Y in insulin-dependent diabetic patients. *Acta Physiol Scand* 1998;165:39-44.



68. Caligiuri G, Levy B, **Pernow J**, Thoren P, Hansson GK. Myocardial infarction mediated by endothelin receptor signaling in hypercholesterolemic mice. *Proc Natl Acad Sci USA* 1999;96:6920-6924.
69. Jiang J, Thorén P, Caligiuri G, Hansson GK, **Pernow J**. Enhanced phenylephrine-induced rhythmic activity in the atherosclerotic mouse aorta via an increase in opening of K_{Ca} channels relation to K_V channels and nitric oxide. *Br J Pharmacol* 1999;128:637-646.
70. Gullestad L, Jørgensen B, Bjurö T, **Pernow J**, Lundberg JM, Dota C-D, Hall C, Simonsen S, Åblad B. Post-exercise ischemia is associated with increased neuropeptide Y in patients with coronary artery disease. *Circulation* 2000;102:987-993.
71. Jiang J, Valen G, Tokuno S, Thoren P, **Pernow J**. Endothelial dysfunction in atherosclerotic mice: improved relaxation by combined supplementation with L-arginine-tetrahydrobiopterin and enhanced vasoconstriction by endothelin. *Br J Pharmacol* 2000;131:1255-1261.
72. **Pernow J**, Bohm F, Johansson BL, Hedin U, Ryden L. Enhanced vasoconstrictor response to endothelin-B-receptor stimulation in patients with atherosclerosis. *J Cardiovasc Pharmacol* 2000;36:Suppl 1:S418-420.
73. Gonon AT, Gourine AV, **Pernow J**. Cardioprotection from ischemia and reperfusion injury by an endothelin A-receptor antagonist in relation to nitric oxide production. *J Cardiovasc Pharmacol* 2000;36:405-412.
74. Gourine AV, Gonon AT, **Pernow J**. Involvement of nitric oxide in cardioprotective effect of endothelin receptor antagonist during ischemia-reperfusion. *Am J Physiol* 2001;280:3:H1105-12.
75. Gourine A, Gonon A, Sjoquist PO, **Pernow J**. Short-acting calcium antagonist clevidipine protects against reperfusion injury via local nitric oxide-related mechanisms in the jeopardised myocardium. *Cardiovasc Res.* 2001;51:100-7.
76. Gonon A, Gourine A, **Pernow J**. Limitation of infarct size and attenuation of myeloperoxidase activity by an endothelin A receptor antagonist following ischemia and reperfusion. *Basic Res Cardiol.* 2001;96:454-462.
77. Lundman P, Tornvall P, Nilsson L, **Pernow J**. A triglyceride-rich fat emulsion and free fatty acids but not very low density lipoproteins impair endothelium-dependent vasorelaxation. *Atherosclerosis.* 2001;159:35-41.
78. Böhm F, Johansson BL, Hedin U, Alving K, **Pernow J**. Enhanced vasoconstrictor effect of big endothelin-1 in patients with atherosclerosis: relation to conversion to endothelin-1. *Atherosclerosis.* 2002;160:215-22.
79. Bohm F, Ahlborg G, **Pernow J**. Endothelin-1 inhibits endothelium-dependent vasodilatation in the human forearm: reversal by ET_A receptor blockade in patients with atherosclerosis. *Clin Sci (Lond).* 2002;102:321-7.
80. Bohm F, **Pernow J**. Urotensin II evokes potent vasoconstriction in humans in vivo. *Br J Pharmacol.* 2002;135:25-7.
81. Bohm F, Ahlborg G, Johansson BL, Hansson LO, **Pernow J**. Combined endothelin receptor blockade evokes enhanced vasodilatation in patients with atherosclerosis. *Arterioscler Thromb Vasc Biol.* 2002;22:674-9.
82. Tokuno S, Chen F, **Pernow J**, Jiang J, Valen G. Effects of spontaneous or induced brain ischemia on vessel reactivity: the role of inducible nitric oxide synthase. *Life Sci.* 2002;71:679-92.
83. Ullman B, **Pernow J**, Lundberg JM, Astrom H, Bergfeldt L. Cardiovascular effects and cardiopulmonary plasma gradients following intravenous infusion of neuropeptide Y in humans: negative dromotropic effect on atrioventricular node conduction. *Clin Sci (Lond)* 2002;103(6):535-42.
84. Gourine AV, Bulhak AA, Gonon AT, **Pernow J**, Sjoquist PO. Cardioprotective effect induced by brief exposure to nitric oxide before myocardial ischemia-reperfusion in vivo. *Nitric Oxide* 2002;7:210-6.
85. Gourine AV, **Pernow J**, Poputnikov DM, Sjoquist PO. Calcium antagonist clevidipine reduces myocardial reperfusion injury by a mechanism related to bradykinin and nitric oxide. *J Cardiovasc Pharmacol* 2002;40:564-70.
86. Tokuno S, Chen F, **Pernow J**, Jiang J, Valen G. Effects of spontaneous or induced brain ischemia on vessel reactivity: the role of inducible nitric oxide synthase. *Life Sci* 2002;71:679-92.
87. Lundman P, Eriksson MJ, Silveira A, Hansson LO, **Pernow J**, Ericsson CG, et al. Relation of hypertriglyceridemia to plasma concentrations of biochemical markers of inflammation and endothelial



- activation (C-reactive protein, interleukin-6, soluble adhesion molecules, von Willebrand factor, and endothelin-1). *Am J Cardiol* 2003;91:1128-31.
88. Bohm F, **Pernow J**, Lindstrom J, Ahlborg G. ETA receptors mediate vasoconstriction, whereas ETB receptors clear endothelin-1 in the splanchnic and renal circulation of healthy men. *Clin Sci (Lond)* 2003;104:143-51.
 89. Gullestad L, Bjurö T, Aaberge L, Apelland T, Skårdal R, Kjekshus E, Nordlander M, Åblad B, **Pernow J**. The effect of a neuropeptide Y Y1 receptor antagonist in patients with angina pectoris. *Europ Heart J* 2003;24:1120-1127.
 90. Johansson BL, Wahren J, **Pernow J**. C-peptide increases forearm blood flow in patients with type 1 diabetes via a nitric oxide-dependent mechanism. *Am J Physiol Endocrinol Metab* 2003;285:E864-70.
 91. **Pernow J**, Bohm F, Beltran E, Gonon A. L-arginine protects from ischemia-reperfusion-induced endothelial dysfunction in humans in vivo. *J Appl Physiol* 2003;95:2218-22.
 92. Gonon A, Erbas D, Bröijersén A, Valen V, **Pernow J**. Nitric oxide mediates protective effect of endothelin receptor antagonism during myocardial ischemia and reperfusion. *Am J Physiol Heart Circ Physiol*, 2004;286:H1767-1774.
 93. Bjuro, T., Gullestad, L., Endresen, K., Nordlander, M., Malm, A., Hoglund, L., Wahlqvist, I., **Pernow, J**. Evaluation of ST-segment changes during and after maximal exercise tests in one-, two- and three-vessel coronary artery disease. *Scand Cardiovasc J* 2004;38:270-277.
 94. Bulhak A.A., Gourine A.V., Gonon A.T., Sjoquist P.O., Valen G., **Pernow J**. Oral pre-treatment with rosuvastatin protects porcine myocardium from ischaemia/reperfusion injury via a mechanism related to nitric oxide but not to serum cholesterol level. *Acta Physiol Scand* 2005;183:151-159.
 95. Nystrom T., Gonon A.T., Sjöholm A., **Pernow J**. Glucagon-like peptide-1 relaxes rat conduit arteries via an endothelium-independent mechanism. *Regul Pept* 2005;125:173-7.
 96. Bohm F, Beltran E, **Pernow J**. Endothelin receptor blockade improves endothelial function in atherosclerotic patients on angiotensin converting enzyme inhibition. *J Intern Med* 2005;257:263-71.
 97. Gourine AV, Molosh AI, Poputnikov D, Bulhak A, Sjoquist PO, **Pernow J**. Endothelin-1 exerts a preconditioning-like cardioprotective effect against ischaemia/reperfusion injury via the ET(A) receptor and the mitochondrial K(ATP) channel in the rat in vivo. *Br J Pharmacol* 2005;144:331-7.
 98. Bohm F, Settergren M, Gonon AT, **Pernow J**. The endothelin-1 receptor antagonist bosentan protects from ischemia/reperfusion-induced endothelial dysfunction in humans. *Clin Sci*, 2005;108:357-63.
 99. Gonon A.T., Bulhak A., Broijersen A., **Pernow J**. Cardioprotective effect of an endothelin receptor antagonist during ischaemia/reperfusion in the severely atherosclerotic mouse heart. *Br J Pharmacol*, 2005;144:860-6.
 100. Jörneskog G, Kalani M, Kuhl J, Båvenholm P, Katz A, Allerstrand G, Alvarsson M, Efendic S, Östenson CG, **Pernow J**, Wahren J, Brismar K. Early microvascular dysfunction in healthy normal weight males with heredity for type 2 diabetes. *Diabetes Care*, 2005;28:1495-7.
 101. Bulhak AA, Sjoquist PO, Xu CB, Edvinsson L, **Pernow J**. Protection against myocardial ischaemia/reperfusion injury by PPAR-alpha activation is related to production of nitric oxide and endothelin-1. *Basic Res Cardiol*. 2006;101:244-52.
 102. Shemyakin A, Bohm F, Wagner H, Efendic S, Bavenholm P, **Pernow J**. Enhanced endothelium-dependent vasodilatation by dual endothelin receptor blockade in individuals with insulin resistance. *J Cardiovasc Pharmacol*. 2006;47:385-90.
 103. Labruto F, **Pernow J**, Yang J, Vaage J, Valen G. Small skin burn injury reduces cardiac tolerance to ischemia via a tumor necrosis factor alpha-dependent pathway. *Burns* 2007;33:606-12. Epub 2007 Apr 30.
 104. Bohm F, Settergren M, **Pernow J**. Vitamin C blocks vascular dysfunction and release of interleukin-6 induced by endothelin-1 in humans in vivo. *Atherosclerosis* 2007;190:408-15.
 105. Gonon AT, Labruto F, Sjoquist PO, **Pernow J**. Cardioprotection mediated by rosiglitazone, a peroxisome proliferator-activated receptor gamma ligand, in relation to nitric oxide. *Basic Res Cardiol*. 2007;102:80-9.
 106. Ahlborg G, Shemyakin A, Böhm F, Gonon A, **Pernow J**. Dual endothelin receptor blockade acutely improves insulin sensitivity in obese patients with insulin resistance and coronary artery disease. *Diabetes Care* 2007;30:591-6.



107. Bulhak AA, Roy J, Hedin U, Gourine AV, Gonon AT, PhD, Sjöquist P-O, **Pernow J**. The cardioprotective effect of rosuvastatin in vivo is dependent on inhibition of geranylgeranyl pyrophosphate and altered RhoA membrane translocation. *Am J Physiol* 2007;292:H3158-63. Epub 2007 Feb 23.
108. Settergren M, **Pernow J**, Brismar K, Jörneskog G, Kalani M. Endothelin-A Receptor Blockade Increases Nutritive Skin Capillary Circulation in Patients with Type 2 Diabetes and Microangiopathy. *J Vasc Res* 2008;45:295-302
109. Gonon AT, Widegren U, Bulhak A, Salehzadeh F, Persson J, Sjoquist PO, **Pernow J**. Adiponectin protects against myocardial ischaemia-reperfusion injury via AMP-activated protein kinase, Akt, and nitric oxide. *Cardiovasc Res* 2008;78:116-22.
110. Kalani M, **Pernow J**, Bragd J, Jörneskog G. Improved peripheral perfusion during endothelin-A receptor blockade in patients with type 2 diabetes and critical limb ischemia. *Diabetes Care*, 2008;31:e56.
111. Settergren M, Böhm F, Rydén L, **Pernow J**. Cholesterol lowering is more important than pleiotropic effects of statins for endothelial function in patients with dysglycaemia and coronary artery disease. *Europ Heart J* 2008;29:1753-60.
Comment in: [Eur Heart J 2008;29:1711-3.](#)
112. Mallbris L, **Pernow J**, Ståhle M. Endothelial function and inflammatory activity in patients with recent onset of severe plaque psoriasis. *Dermatology J* 2008;2:64-68.
113. Böhm F, Jensen J, Svane B, Settergren M, **Pernow J**. Intracoronary endothelin receptor blockade improves endothelial function in patients with coronary artery disease. *Can J Physiol Pharmacol*, 2008;86:745-51.
114. Settergren M, Böhm F, Malmström RE, Channon KM, **Pernow J**. L-arginine and tetrahydrobiopterin protects against ischemia/reperfusion-induced endothelial dysfunction in patients with type 2 diabetes mellitus and coronary artery disease. *Atherosclerosis*. 2009;204:73-8.
115. Malmström RE, Settergren M, Böhm F, **Pernow J**, Hjemdahl P. No effect of lipid lowering on platelet reactivity in patients with type 2 diabetes or impaired glucose tolerance and coronary artery disease. *Thromb Haemost*, 2009;101:157-64.
116. Jung C, Fischer N, Fritzenwanger M, **Pernow J**, Brehm BR, Figulla HR. Association of waist circumference, traditional cardiovascular risk factors and stromal-derived factor-1 in adolescents. *Pediatric Diabetes* 2009;10:329-35.
117. Jung C, Shemyakin A, Böhm F, **Pernow J**. Endothelial microparticles in patients with insulin resistance. *Diabetes Metab* 2009;35:71-3..
118. Bulhak A, Jung C, Östenson C-G, Lundberg JO, Sjöquist PO, **Pernow J**. PPAR-alpha activation protects the type 2 diabetic myocardium against ischemia-reperfusion injury: involvement of the PI3-kinase/Akt and NO pathway. *Am J Physiol* 2009;296:H719-27.
119. Nathanson D, Erdogdu O, **Pernow J**, Zhang Q, Nyström T. [Endothelial dysfunction induced by triglycerides is not restored by exenatide in rat conduit arteries ex vivo.](#) *Regul Pept.* 2009;157:8-13.
120. Settergren M, Böhm F, PhD, Rydén L, **Pernow J**, Kalani M. Lipid lowering *versus* pleiotropic effects of statins on skin microvascular function in patients with dysglycemia and coronary artery disease. *J Intern Med* 2009;266:492-8.
121. Rafik Hamad R, Larsson A, **Pernow J**, Bremme K, Eriksson MJ. Assessment of left ventricular structure and function in preeclampsia by echocardiography and cardiovascular biomarkers. *J Hypertension* 2009;27:2257-64.
122. Jung C, Gonon AT, Sjöquist PO, Lundberg JO, **Pernow J**. [Arginase inhibition mediates cardioprotection during ischaemia-reperfusion.](#) *Cardiovasc Res.* 2010;85:147-54.
123. Jung C, Rafnsson A, Shemyakin A, Böhm F, **Pernow J** Different subpopulations of endothelial progenitor cells and circulating apoptotic progenitor cells in patients with vascular disease and diabetes. *Int J Cardiol*, 2010;143:368-72.
124. Malmström RE, Settergren M, **Pernow J**. Endothelium-dependent inhibition of platelet activation in man. *Acta Physiol* 2010;198:441-8.



125. Shemyakin A, Salehzadeh F, Böhm F, Al-Khalili L, Gonon A, Wagner H, Efendic S, Krook A, **Pernow J**. Regulation of glucose uptake by endothelin-1 in human skeletal muscle *in vivo* and *in vitro*. *J Clin Endocrinol Metab.* 2010;95:2359-66.
126. Sörensson P, Heiberg E, Saleh N, Bouvier F, Caidahl K, Tornvall P, Rydén L, **Pernow J**, Arheden H. Assessment of myocardium at risk with contrast enhanced cine steady-state free precession compared to single-photon emission computed tomography in humans. *J Cardiac Magnetic Resonance* 2010;12:25.
127. Soneson H, Engblom H, Hedström E, Bouvier F, Sörensson P, **Pernow J**, Arheden H. A, Heiberg E. Novel Automatic Method for Quantification of Myocardium at Risk from Myocardial Perfusion SPECT in Patients with Acute Coronary Occlusion. *J Nucl Cardiol* 2010;17:831-40. Epub 2010 May 4.
128. Sörensson P, Saleh N, Bouvier F, Böhm F, Settergren M, Caidahl K, Tornvall P, Arheden H, Rydén L, **Pernow J**. Effect of postconditioning on myocardial infarct size in patients with ST-elevation myocardial infarction. *Heart.* 2010;96:1710-5.
129. Gonon AT, Jung C, Yang J, Sjöquist PO, **Pernow J**. The effect of combined L-arginine given at the onset of reperfusion and postconditioning on myocardial infarct size in the pig. *Acta Physiol*, 2011;201:219-26.
130. Grönros J, Jung C, Lundberg JON, Östenson C-G, **Pernow J**. Arginase Inhibition Restores *in vivo* Coronary Microvascular Function in Type 2 Diabetic Rats. *Am J Physiol Heart Circ Physiol.* 2011;300(4):H1174-81.
131. [Sandin A](#), [Dagnell M](#), [Gonon A](#), [Pernow J](#), [Stangl V](#), [Aspenström P](#), [Kappert K](#), [Ostman A](#). Hypoxia followed by re-oxygenation induces oxidation of tyrosine phosphatases. *Cell Signal* 2011;23:820-6.
132. Shemyakin A, Salehzadeh F, Esteves Duque-Guimaraes D, Böhm F, Rullman E, Gustafsson T, **Pernow J**, Krook A. Endothelin-1 reduces glucose uptake in human skeletal muscle *in vivo* and *in vitro*. *Diabetes* 2011;60:2061–2067.
133. Gullestad L, **Pernow J**, Bjurö T, Aaberge L, Skårdal R, Kjekshus E, Høglund L, Mellgård AJ, Wahlquist I, Ablad B. Differential effects of metoprolol and atenolol to neuropeptide Y blockade in coronary artery disease. *Scand Cardiovasc J.* 2012;46:23-31.
134. Rafnsson A, Böhm F, Settergren M, Gonon A, Brismar K and **Pernow J**. The Endothelin Receptor Antagonist Bosentan Improves Peripheral Endothelial Function in Patients with Type 2 Diabetes Mellitus and Microvascular Complications: A Randomized Study. *Diabetologia.* 2012;55:600-7.
135. Jung C, Sörensson P, Saleh N, Arheden H, Rydén L, **Pernow J**. Circulating endothelial and platelet derived microparticles reflect the size of myocardium at risk in patients with ST-elevation myocardial infarction. *Atherosclerosis* 2012;221:226-31.
136. Ubachs JF, Sorensson P, Engblom H, Carlsson M, Jovinge S, **Pernow J**, Arheden H. Myocardium at risk by magnetic resonance imaging: head-to-head comparison of T2-weighted imaging and early gadolinium enhanced steady state free precession. *Eur Heart J Cardiovasc Imaging.* 2012;13:1008-15.
137. Jung C, Sörensson P, Saleh N, Arheden H, Rydén L, **Pernow J**. Effects of Myocardial Postconditioning on the Recruitment of Endothelial Progenitor Cells. *J Interv Cardiol.* 2012;25:103-10.
138. Cerrato R, Cunnington C, Crabtree M, **Pernow J**, Channon KM, Böhm F. Endothelin-1 increases superoxide production in human coronary artery bypass grafts. *Life Sci.* 2012;91:723-8.
139. Basalay M, Barsukevich V, Mastitskaya S, Mrochek A, **Pernow J**, Sjöquist PO, Ackland GL, Gourine AV, Gourine A. Remote ischaemic pre- and delayed postconditioning - similar degree of cardioprotection but distinct mechanisms. *Exp Physiol.* 2012;97:908-17.
140. Gonon AT, Jung C, Yang J, Sjöquist PO, **Pernow J**. Intracoronary arginase blockade increases local nitric oxide bioavailability and reduces infarct size in the pig. *PLoS One.* 2012;7:e42038. Epub 2012 Jul 31.
141. Ammirati E, Cannistraci CV, Cristell NA, Vecchio V, Palini AG, Tornvall P, Paganoni AM, Sangalli LM, Monello A, **Pernow J**, Björnstedt Bennermo M, Ravasi T, Marenzi G, Hu D, Uren NG, Cianflone D, Manfredi A and Maseri A. Identification and Predictive Value of IL6(+)IL10(+) and IL6(-)IL10(+) Cytokine Patterns in ST-Elevation Acute Myocardial Infarction. *Circ Res.* 2012 Oct 26;111:1336-48. Epub 2012 Aug 29.
142. Shemyakin A, Kövamees O, Rafnsson A, Böhm F, Svenarud P, Settergren M, Jung C, **Pernow J**. Arginase inhibition improves endothelial function in patients with coronary artery disease and type 2 diabetes. *Circulation* 2012 Dec 18;126:2943-50. Epub 2012 Nov 26.



143. Jung C, Rafnsson A, Brismar K, **Pernow J**. Endothelial progenitor cells in relation to endothelin-1 and endothelin receptor blockade: A randomized, controlled trial. *Int J Cardiol*. 2013;168:1017-1022.
144. Qwitter F, Figulla HR, Ferrari M, **Pernow J**, Jung C. Increased arginase levels in heart failure represent a therapeutic target to rescue microvascular perfusion. *Clin Hemorheol Microcirc*. 2013;54:75-85.
145. Sörensson P, Rydén L, Saleh N, Tornvall P, Arheden H, **Pernow J**. Long-term impact of postconditioning on infarct size and left ventricle ejection fraction in patients with ST elevation myocardial infarction . *BMC Cardiovasc Disord*. 2013 Mar 25;13:22.
146. Grönros J, Kiss A, Palmér M, Berkowitz D, **Pernow J**. Inhibition of arginase reduces infarct size and increases coronary microvascular function during early and late stage of reperfusion. *Acta Physiol*, 2013;208:172-9.
147. Tratsiakovich Y, Gonon AT, Krook A, Yang J, Shemyakin A, Sjöquist PO, **Pernow J**. Arginase inhibition reduces infarct size via nitric oxide, protein kinase C epsilon and mitochondrial ATP-dependent K⁺ channels. *Europ J Pharmacol* 2013;712:16-21.
148. Jung C, Figulla HR, Lichtenauer M, Franz M, **Pernow J**. Increased levels of circulating arginase I in overweight compared to normal weight adolescents. *Pediatr Diabetes*. 2014;15:51-6.
149. Yang J, Gonon AT, Sjöquist PO, Lundberg JON, **Pernow J**. Arginase regulates red blood cell nitric oxide synthase and export of cardioprotective nitric oxide bioactivity. *Proc Natl Acad Sci U S A*. 2013 Sep 10;110(37):15049-54.
150. Tratsiakovich Y, Gonon AT, Kiss A, Yang J, Böhm F, Tornvall P, Settergren M, Channon KM, Sjöquist PO, **Pernow J**. Myocardial protection by co-administration of L-arginine and tetrahydrobiopterin during ischemia and reperfusion. *Int J Cardiol* 2013 169:83-8.
151. Yaiw KC, Mohammad AA, Taher C, Wilhelmi V, Davoudi B, Strååt K, Assinger A, Ovchinnikova O, Shlyakhko E, Rahbar A, Koutonguk O, Religa P, Butler L, Khan Z, Streblov D, **Pernow J**, Söderberg-Nauclér C. Human cytomegalovirus induces upregulation of arginase II: possible implications for vasculopathies. *Basic Res Cardiol*. 2014;109:401.
152. Rafnsson A, Shemyakin A, **Pernow J**. Selective ETA and dual ETA/ETB receptor blockade improve endothelial function in patients with coronary artery disease and type 2 diabetes mellitus. *Life Sci* 2014;118:435-9.
153. Kövamees O, Shemyakin A, **Pernow J**. Effect of arginase inhibition on ischemia-reperfusion injury in patients with coronary artery disease with and without diabetes mellitus. *PLoS One*. 2014 Jul 29;9:e103260.
154. Kiss A, Tratsiakovich Y, Gonon AT, Fedotovskaya O, Lanner JT, Andersson DC, Yang J, **Pernow J**. The role of arginase and rho kinase in cardioprotection from remote ischemic preconditioning in non-diabetic and diabetic rat in vivo. *PLoS One* 2014;9:e104731.
155. Jung C, Qwitter F, Lichtenauer M, Fritzenwanger M, Pfeil A, Shemyakin A, Franz M, Figulla HR, Pfeifer R, **Pernow J**. Increased arginase levels contribute to impaired perfusion after cardiopulmonary resuscitation. *Eur J Clin Invest*. 2014;44:965-71.
156. Snowden SG, Grapov D, Settergren M, D'Alexandri FL, Haeggström JZ, Fiehn O, Hyötyläinen T, Pedersen TL, Newman JW, Orešič M, **Pernow J**, Wheelock CE. High-dose simvastatin exhibits enhanced lipid-lowering effects relative to simvastatin/ezetimibe combination therapy. *Circ Cardiovasc Genet*. 2014;7:955-64.
157. Huang Z, Miao X, Luan Y, Zhu L, Kong F, Lu Q, **Pernow J**, Nilsson G, Li N. PAR1-stimulated platelet releasate promotes angiogenic activities of endothelial progenitor cells more potently than PAR4-stimulated platelet releasate. *J Thromb Haemost*. 2015;13:465-76.
158. **Pernow J**, Kiss A, Tratsiakovich Y, Climent B. Tissue-specific up-regulation of arginase I and II induced by p38 MAPK mediates endothelial dysfunction in type 1 diabetes mellitus. *Br J Pharmacol* 2015;172:4684-98.