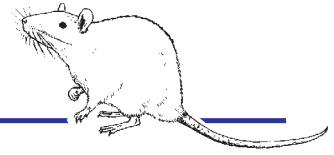




Rat Aorta Publication References



Ascending Aorta Validation

- 30V Wen, C., Li, M., Whitworth, J.A., "Validation of Transonic Small Animal Flowmeter for Measurement of Cardiac Output and Regional Blood Flow in the Rat," *Journal of Cardiovascular Pharmacology*, Vol. 27, No. 4, p. 482-486, 1996. (*rat, ascending aorta, renal, mesenteric*)

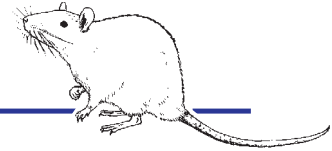
Ascending Aorta Applications

- 6981A Shen YT, Cervoni P, Claus T, Vatner SF, "Differences in beta 3-adrenergic receptor cardiovascular regulation in conscious primates, rats and dogs," *J Pharmacol Exp Ther.* 1996 Sep;278(3):1435-43.
- 2983A Smith L, Tiba MH, Goldberg ME, Barbee RW., "Chronic implantation of transit-time flow probes on the ascending aorta of rodents." *Lab Anim.* 2004 Oct;38(4):362-70. (*rat, asc. aorta, chronic*)
- 2979A Torres LN, Torres Filho IP, Barbee RW, Tiba MH, Ward KR, Pittman RN., "Systemic responses to prolonged hemorrhagic hypotension." *Am J Physiol Heart Circ Physiol.* 2004 May;286(5):H1811-20. (*rat, asc. aorta. chronic*)
- 2942A Torres LN, Torres Filho IP, Barbee RW, Tiba MH, Ward KR, Pittman RN., "Continuous peripheral resistance measurement during hemorrhagic hypotension." *Am J Physiol Heart Circ Physiol.* 2004 Nov;287(5):H2341-5. (*rat, asc aorta,)*
- 2925A Berry MF, Pirolli TJ, Jayasankar V, Burdick J, Morine KJ, Gardner TJ, Woo YJ., "Apelin has in vivo inotropic effects on normal and failing hearts." *Circulation.* 2004 Sep 14;110(11 Suppl 1):II187-II193. (*rat, ascending aorta*)
- 2890A Leung SW, Lim SL, Pang CC, Man RY, "Use of A-192621 and IRL-2500 to unmask the mesenteric and renal vasodilator role of endothelin ET(B) receptors," *J Cardiovasc Pharmacol.* 2002 Apr;39(4):533-43. (*rat, CO acute*)
- 2891A Mansart A, Bollaert PE, Seguin C, Levy B, Longrois D, Mallie JP, "Hemodynamic effects of early versus late glucocorticosteroid administration in experimental septic shock," *Shock.* 2003 Jan;19(1):38-44. (*rat, CO acute*)
- 2860A Yu M, Ghosh M, McNeill JR, "A novel vasopressin peptide lowers blood pressure through decreases in cardiac output," *Can J Physiol Pharmacol.* 2003 May;81(5):497-501. (*rat, asc aorta, acute*)
- 2861A Yu M, Gopalakrishnan V, Wilson TW, McNeill JR, "Endothelin antagonist reduces hemodynamic responses to vasopressin in DOCA-salt hypertension," *Am J Physiol Heart Circ Physiol.* 2001 Dec;281(6):H2511-7. (*rat, asc aorta, acute*)
- 2862A Yu M, Gopalakrishnan V, McNeill JR, "Role of endothelin and vasopressin in DOCA-salt hypertension," *Br J Pharmacol.* 2001 Apr;132(7):1447-54.
- 2854A Yu M, Gopalakrishnan V, McNeill JR, "Total peripheral conductance mediates antihypertensive effect of nonpeptide mixed endothelin receptor antagonist in deoxycorticosterone acetate-salt hypertensive rats," *Am J Hypertens.* 1999 Aug;12(8 Pt 1):845-8. (*rat, cardiac output, chronic*)
- 2799A Saupe KW, Sobol SC, Koh SG, Apstein CS, "Effects of AT1 receptor block begun late in life on normal cardiac aging in rats," *J Cardiovasc Pharmacol*, Vol. 42, No. 4, p. 573-80, 2003. (*rat, cardiac output, acute*)
- 2782A Yu M, Ghosh M, McNeill JR, "A novel vasopressin peptide lowers blood pressure through decreases in cardiac output," *Can J Physiol Pharmacol*, Vol. 1, No. 5, p. 497-501, 2003. (*asc. aorta, chronic*)
- 2653A Novotna, J., Bibova, J., Hampl, V., Deyl, Z., Herget, J., "Hyperoxia and recovery from hypoxia alter collagen in peripheral pulmonary arteries similarly," *Physiol Res*, Vol. 50, No. 2, p. 153-63, 2001. (*rat, asc. aorta, acute*)
- 2452A Moser, P.C., Bergis, O.E., Jegham, S., Lochead, A., Duconseille, E., Terranova, J.P., Caille, D., Berque-Bestel, I., Lozouac'h, F., Fischmeister, R., Dumuis, A., Bockaert, J., George, P., Soubrie, P., Scatton, B., "SL65.0155, a novel 5-hydroxytryptamine(4) receptor partial agonist with potent cognition-enhancing properties," *J Pharmacol Exp Ther*, Vol. 302, No. 2, p. 731-41, 2002. (*rat, cardiac output*)
- 2419A Aschenbach, W.G., Brower, G.L., Talmadge, R.J., Dobson, J.L., Gladden, L.B., "Effect of a myocardial volume overload on lactate transport in skeletal muscle sarcolemmal vesicles," *AJP*, Vol. 281, No. 1, p. R176-86, 2001. (*asc. aorta, chronic*)
- 2394A Cerutti, C., Gustin, M.P., Molino, P., Paultre, C.Z., "Beat-to-beat stroke volume estimation from aortic pressure waveform in conscious rats: comparison of models," *AJP*, Vol. 281, No. 3, p. H1148-55, 2001. (*rat, cardiac output, chronic*)





Rat Aorta Publication References

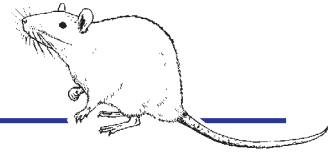


- 2386A Rabelo, E., De Angelis, K., Bock, P., Gatelli, F.T., Cervo, F., Bello, K.A., Clausell, N., Claudia, I.M., "Baroreflex sensitivity and oxidative stress in adriamycin-induced heart failure," *Hypertension*, Vol. 38, No. 3 Pt 2, p. 576-80, 2001. (*asc. aorta, acute*)
- 2374A Veal, N., Moal, F., Wang, J., Vuillemin, E., Oberti, F., Roy, E., Kaassis, M., Trouve, R., Saumet, J.L., Cales, P., "New method of cardiac output measurement using ultrasound velocity dilution in rats," *JAP*, Vol. 91, No. 3, p. 1274-82, 2001. (*carotid, asc. aorta, acute*)
- 2368A Jin, H., Yang, R., Awad, T.a., Wnag, F., Li, W., Williams, S-P, Ogasawara, A., Shimada, B., Williams, P.M., de Feo, G., Paoni, N.F., "Effects of early angiotensin-converting enzyme inhibition on cardiac gene expression after acute myocardial infarction," *Circulation*, Vol. 103, No. 5, p. 736-42, 2001. (*rat, asc. aorta, chronic*)
- 2358A Yu, M., Gopalakrishnan, V., Wilson, T.W., McNeill, J.R., "Endothelin antagonist reduces hemodynamic responses to vasopressin in DOCA-salt hypertension," *AJP*, Vol. 281, No. 6, p. H2511-7, 2001. (*rat, cardiac output, chronic*)
- 2350A Reeve, H.L., Michelakis, E., Nelson, D.P., Weir, E.K., Archer, S.L., "Alterations in a redox oxygen sensing mechanism in chronic hypoxia," *JAP*, Vol. 90, No. 6, p. 2249-2256, 2001. (*aorta, acute*)
- 2343A Yu, C.-C., Lai, Y.-L., "In vivo pressure-flow curve in unilateral rat lung ischemia-reperfusion injury," *JAP*, Vol. 90, No. 5, p. 1865-70, 2001. (*rat, ascending aorta, pulmonary artery, acute*)
- 2334A Tatchum-Tatum, R., Martel, C., Marette, A., "Influence of estrogen on aortic stiffness and endothelial function in female rats," *AJP*, Vol. 282, No. 3, p. H491-8, 2002. (*rat, carotid a., aorta, abdominal a., acute*)
- 2252A Obal, D., Preckel, B., Scharbatke, H., Mullenheim, J., Hoterkes, F., Thamer, V., Schlack, W., "One MAC of sevoflurane provides protection against reperfusion injury in the rat heart in vivo," *Br J Anaesth*, Vol. 87, No. 6, p. 905-11, 2001. (*rat, cardiac output, acute*)
- 2191A Singer, M., Stidwill, R.P., Nathan, A., Gainer, J.L., "Intravenous crocetinate prolongs survival in a rat model of lethal hypoxemia," *Crit Care Med*, Vol. 28, No. 6, p. 1968-72, 2000. (*rat, aorta, renal a., acute*)
- 2129A Nakamura, T., Vollmar, B., Winning, J., Ueda, M., Menger, M.D., Schafers, H.J., "Heparin and the nonanticoagulant N-acetyl heparin attenuate capillary no-reflow after normothermic ischemia of the lung," *Ann Thorac Surg*, Vol. 72, No. 4, p. 1183-8, 2001. (*rat, ascending aorta, acute*)
- 1829A Broderick, T.L., Currie, R.W., Paulson, D.J., "Heat stress induces rapid recovery of mechanical function of ischemic fatty acid perfused hearts by stimulating glucose oxidation during reperfusion," *Can J Physiol Pharmacol*, Vol. 75, No. 12, p. 1273-9, 1997. (*rat, aorta, acute*)
- 1629A Miyashita, H., Sugimachi, M., Sato, T., Kawada T., Shishido, T., Nakahara, T., Yoshimura, R., Takaki, H., Miyano, H., Sunagawa, K., "A Novel Servo-Control System that Imposes Desired Aortic Input Impedance on In Situ Rat Heart," *American Journal of Physiology*, Vol. 278, No. 3, p. H998-1007, 2000. (*rat, ascending aorta*)
- 1611A Brands, M.W., Fitzgerald, S.M., Hewitt, W.H., Hailman, A.E., "Decreased Cardiac Output at the Onset of Diabetes: Renal Mechanism and Peripheral Vasoconstriction," *American Journal of Physiology*, Vol. 278, No. 5, p. E917-E924, 2000. (*rat, ascending aorta*)
- 1537A Yang, R., Bunting, S., Ko, A., Keyt, B.A., Jodi, N.B., Zioncheck, T.F., Ferrara, N., Jin, H., "Substantially Attenuated Hemodynamic Responses to Escherichia coli-Derived Vascular Endothelial Growth Factor Given by intravenous Infusion Compared with Bolus Injection," *Journal of Pharmacology and Experimental Therapeutics*, Vol. 284, No. 1, p. 103-110, 1998. (*rat, ascending aorta*)
- 1410A Potts, J.T., McKeown, K.P., Shoukas, A.A., "Reduction in Arterial Compliance Alters Carotid Baroreflex Control of Cardiac Output in a Model of Hypertension," *American Journal of Physiology*, Vol. 274, p. H1121-1131, 1998. (*rat, asc. aorta*)
- 1198A Hatton, D.C., Brooks, V., Qi, Y., McCarron, D.A., "Cardiovascular Response to Stress: Baroreflex Resetting and Hemodynamics," *American Journal of Physiology*, Vol. 272, No. 5, p. R1588-1594, 1998. (*rat, ascending aorta, chronic*)
- 1197A Yu, M., Gopalakrishnan, V., McNeil, J.R., "Hemodynamic Effects of a Selective Endothelin - a Receptor Antagonist in Deoxycorticosterone Acetate - Salt Hypertensive Rats," *Journal of Cardiovascular Pharmacology*, Vol. 31, Suppl. 1, p. A262-264, 1998. (*rat, ascending aorta, chronic*)
- 1196A Balakrishnan, S.M., Gopalakrishnan, V., McNeil, J.R., "Endothelin Contributes to the Hemodynamic Effects of Vasopressin in Spontaneous Hypertension," *European Journal of Pharmacology*, Vol. 334, No. 1, p. 55-60, 1997. (*rat, ascending aorta, chronic*)





Rat Aorta Publication References



- 1193A McKeown, K.P., Shoukas, A.A., "Chronic Isolation of Carotid Sinus Baroreceptor Region in Conscious Normotensive and Hypertensive Rats," *American Journal of Physiology*, Vol. 275, No. 1, p. H3220-H329, 1998. (*rat, asc. aorta, chronic*)
- 853A Balakrishnan, S., Wang, H.D., Gopalakrishnan, V., Wilson, T.W., McNeill, J.R., "Effect of An Endothelin Antagonist on Hemodynamic Responses to Angiotensin II," *Hypertension*, Vol. 28, No. 5, p. H806-809, 1996. (*rats, CO, ascending aorta, 2.5 S, chronic*)
- 825A Langenfeld, J.E., Machiedo, G.W., Lyons, M., Rush, B.F. Jr., Dikdan, G., Lysz, T.W., "Correlation between Red Blood Cell Deformability and Changes in Hemodynamic Function," *Surgery*, Vol. 116, p. 859-967, 1994. (*aorta, rat, chronic*)
- 820A Dundore, R.L., Brosseau, A.C., Habeeb, P.G., Pratt, P.F., Becker, L.T., Clas, D.F., Silver, P.J., Buchholz, R.A., "Hemodynamic and Renal Effects of the Protein Kinase Inhibitor Staurosporine in Conscious Rats," *Journal of Cardiovascular Pharmacology*, Vol. 20, pp. 525-532, 1992. (*rat, ascending aorta, 3SB, Regional flows measured by Doppler, chronic*)
- 758A Levy, B.I., Poitevin, P., Safar, M.E., "Effects of Indapamide on the Mechanical Properties of the Arterial Wall in Deoxycorticosterone Acetate-Salt Hypertensive Rats," *American Journal of Cardiology*, Vol. 65, No. 17, p. 28H-32H, 1990. (*ascending aorta, rat*)
- 666A Yang, R., Thomas, G.R., Bunting, S., Ko, A., Ferrara, N., Keyt, B., Ross, J., Jin, H., "Effects of Vascular Endothelial Growth Factor on Hemodynamics and Cardiac Performance," *Journal of Cardiovascular Pharmacology*, Vol. 27, p. 838-844, 1996. (*rat, CO, ascending aorta, chronic*)
- 531A Johnson, R.A., Lavesa, M., Askari, B., Abraham, N.G., Nasjletti, A., "A Heme Oxygenase Product, Presumably Carbon Monoxide, Mediates a Vasodepressor Function in Rats," *Hypertension*, Vol. 25, p. 166-169, 1995. (*rat, aorta, 2.5S, chronic*)
- 426A Kost, C.K., Herzer, W.A., Jackson, E.K., "Vascular Reactivity to Angiotensin II Is Selectively Enhanced in the Kidneys of Spontaneously Hypertensive Rats," *The Journal of Pharmacology and Experimental Therapeutics*, Vol. 269, No. 1, p. 82-88, 1994. (*rat, mesenteric, renal, carotid, asc. aorta, acute*)
- 401A Yang, X-P, Sabbah, H.N., Liu, Y-H, Sharov, V.G., Mascha, E.J., Alwan, I., Carretero, O.A., "Ventriculographic Evaluation of Three Rat Models of Cardiac Dysfunction," *American Journal of Physiology*, Vol. 265, p. H1946-H1952, 1993. (*rat, ascending aorta, acute*)
- 262A Dundore, R.L., Habeeb, P.G., Pratt, P.F., Becker, L.T., Clas, D.F., Buchholz, R.A., "Differential Hemodynamic Responses to Selective Inhibitors of Cyclic Nucleotide Phosphodiesterases in Conscious Rats," *Journal of Cardiovascular Pharmacology*, Vol. 19, pp. 937-944, 1992.
- 229A Shen, Y-T., Young, M.A., Ohanian, J., Graham, R.M., Vatner, S.F., "Atrial Natriuretic Factor-Induced Systemic Vasoconstriction in Conscious Dogs, Rats, and Monkeys," *Circulation Research*, Vol. 66, pp. 647-661, 1990.
- 95A Shroff, S.G., Motz, W., "Left Ventricular Systolic Resistance in Rats with Hypertension and Hypertrophy," *American Journal of Physiology*, Vol. 257, pp. H386-394, 1989.
- 89A Hoffman, A., Grossman, E., Ohman, K.P., Marks, E., Keiser, H.R., "Endothelin Induces An Initial Increase in Cardiac Output Associated with Selective Vasodilation in Rats," *Life Sciences*, Vol. 45, No. 3, p. 249-255, 1989.
- 96A Shroff, S.G., Naegelen D., Clark, W.A., "Relation Between Left Ventricular Systolic Resistance and Contractile Rate Processes," *American Journal of Physiology*, Vol. 257, 1989.
- 30A Alexander, J. Jr., Burkhoff, D., Schipke, J., and Sagawa, K, "The Influence of Mean Pressure on Aortic Impedance and Reflections in the Systemic Arterial System"; *Automedica*, Vol. 9, No. 1-3, p. 46, 1987.

Abdominal Aorta Validation

- 25V D'Almeida, M.S., Gaudin, C., Lebrec, D., "Validation of 1- and 2- Transit Time Ultrasound Flow Probes on Mesenteric Artery and Aorta of Rats," *AJP* Vol. 268, Vol. 3, Pt. 2, p. H1368-1372, 1995. (*rat, sma, ab aorta*)

Abdominal Aorta Applications

- 2979A Torres LN, Torres Filho IP, Barbee RW, Tiba MH, Ward KR, Pittman RN., " Systemic responses to prolonged hemorrhagic hypotension." *Am J Physiol Heart Circ Physiol*. 2004 May;286(5):H1811-20. . rat, asc. aorta. chronic PMID: 14726303
- 2978A de Paula PM, Machado BH., "Changes in regional vascular resistance in response to microinjection of L-glutamate into different antero-posterior coordinates of the RVLM in awake rats." *Auton Neurosci*. 2001 Mar 23;87(2-3):301-9. (rat, chronic, superior mesenteric, inferior abdominal aorta, renal a.)



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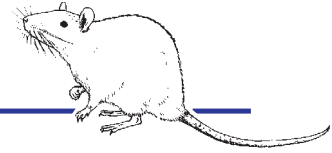
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Rat Aorta Publication References



- 2859A Tatchum-Talom R, Martel C, Marette A, "Influence of estrogen on aortic stiffness and endothelial function in female rats," *Am J Physiol Heart Circ Physiol.* 2002 Feb;282(2):H491-8. (*rat, abdominal aorta, carotid a., acute*)
- 2856A Tatchum-Talom R, Schulz R, McNeill JR, Khadour FH, "Upregulation of neuronal nitric oxide synthase in skeletal muscle by swim training," *Am J Physiol Heart Circ Physiol.* 2000 Oct;279(4):H1757-66. (*rat, abdominal aorta, chronic*)
- 2714A de Paula PM, Machado BH, "Changes in regional vascular resistance in response to microinjection of L-glutamate into different antero-posterior coordinates of the RVLM in awake rats," *Auton Neurosci.* 2001 Mar 23;87(2-3):301-9. (*abdominal aorta., superior mesenteric, renal a., chronic*)
- 2701A Asfar, P., Pierrot, M., Veal, N., Moal, F., Oberti, F., Croquet, V., Douay, O., Gallois, Y., Saumet, J-L., Alquier, P., Cales, P., "Low-dose terlipressin improves systemic and splanchnic hemodynamics in fluid-challenged endotoxic rats," *Crit Care Med*, Vol. 31, No. 1, p. 215-220. 2003. (*rat, abdominal aorta, mesenteric a., acute*)
- 2355A Sheriff, D.D., Hakeman, A.L., "Role of speed vs. grade in relation to muscle pump function at locomotion onset," *JAP*, Vol. 91, No. 1, p. 269-76, 2001. (*rat, descending aorta, chronic*)
- 2334A Tatchum-Tatum, R., Martel, C., Marette, A., "Influence of estrogen on aortic stiffness and endothelial function in female rats," *AJP*, Vol. 282, No. 3, p. H491-8, 2002. (*rat, carotid a., aorta, abdominal a., acute*)
- 1783A Studer, W., Wu, X., "Supraceliac aorta cross-clamping and declamping. Effects of dexmedetomidine and dopamine on systemic and mesenteric hemodynamics, metabolism and intestinal tonometry in a rat model," *Acta Anaesthesiol Scand*, Vol. 44, No. 3, p. 241-248, 2000. (*rat, SMA, carotid a., abdominal aorta, acute*)
- 1210A Brands, M.W., Fitzgerald, S.M., "Acute Endothelium-Mediated Vasodilatation Is Not Impaired at the Onset of Diabetes," *Hypertension*, Vol. 32, No. 3, p. 541-547, 1998. (*rat, chronic, abdominal aorta*)
- 857A Haque, S.M., Usui, N., Iboshi, Y., Okuyama, H., Masunari, A., Chen, K., Nezu, R., Takagi, Y., Okada, A., "Quantification of Intestinal Blood Flow by Ultrasonic Transit Time Flowmetry in Fed and Endotoxaemic Rats," *European Journal of Surgery*, Vol. 162, No. 7, p. 561-565, 1996. (*rat, abdominal aorta, superior mesenteric, acute*)
- 790A Cohn, S.M., Farrell, T.J., "Diaspirin Cross-Linked Hemoglobin Resuscitation of Hemorrhage: Comparison of a Blood Substitute with Hypertonic Saline and Isotonic Saline," *Journal of Trauma: Injury, Infection and Critical Care*, Vol. 39, No. 2, p. 210-216, 1995. (*abdominal aorta, rat, acute*)
- 727A Myers, S.I., Turnagem R., H. m Kadesky, K.M., Seelig, A.R., Bartula, L., "Endotoxemia Shock After Long-Term Resuscitation of Hemorrhage Reperfusion Injury Decreased Splanchnic Blood Flow and Eicoanoid Release," *Annals of Surgery*, Vol. 224, No. 2, p. 213-218, 1996. (*rat, abdominal aorta, sma, acute*)
- 678A Bitterman, H., Brod, V., Weisz, G., Kushner, D., Bitterman, N., "Effects of Oxygen on Regional Hemodynamics in Hemorrhagic Shock," *American Journal of Physiology*, Vol. 271, p. H203-H211, 1996. (*rat, renal, abdominal aorta, sma, acute*)
- 643A Hernandez, R., Myers, I., "Prostacyclin Regulates Splanchnic Blood Flow during Early Hemorrhage Reperfusion Injury," *Prostaglandins Leukotrienes and Essential Fatty Acids*, Vol. 43, p. 401-405, 1993. (*rat, sma, acute, PA, acute*)
- 606A Myers, S.I., Turnage, R.H., Hernandez, R., Castenada, A., Valentine, J., "Autoregulation of Renal and Splanchnic Blood Flow Following Infra-Renal Aortic Clamping Is Mediated by Nitric Oxide and Vasodilator Prostanoids," *Journal of Cardiovascular Surgery-Turin* . (*sma, renal, supra-celiac abdominal aorta, rat, acute*)
- 48A Von Dreele M.M., and Jursich, C., "Hemodynamics in Developing SHR," *American Journal of Hypertension*, Vol. 1, No. 3, Part 2, 1988.

