



### Recent References (2018-2019) on the Administration of Angiotensin II Using ALZET® Osmotic Pumps

**Q6802:** L. Zhong, X. He, X. Si, H. Wang, B. Li, Y. Hu, M. Li, X. Chen, W. Liao, Y. Liao and J. Bin. SM22alpha (Smooth Muscle 22alpha) Prevents Aortic Aneurysm Formation by Inhibiting Smooth Muscle Cell Phenotypic Switching Through Suppressing Reactive Oxygen Species/NF-kappaB (Nuclear Factor-kappaB). *Arterioscler Thromb Vasc Biol* 2019;39(1):e10-e25

**ALZET Comments:** Angiotensin II; Saline; SC; Mice (knockout); 2004; 28 days; Dose (1 µg/kg/min; 0.5 µg/kg/min); Controls received mp w/ vehicle; animal info (10-12 week old C57BL/6J mice; male ApoE<sup>-/-</sup> (apolipoprotein E-deficient) mice on a C57BL/6J background); cardiovascular;

**Q6947:** A. Zhang, M. Wang and P. Zhuo. Unc-51 like autophagy activating kinase 1 accelerates angiotensin II-induced cardiac hypertrophy through promoting oxidative stress regulated by Nrf-2/HO-1 pathway. *Biochem Biophys Res Commun* 2019;509(1):32-39

**ALZET Comments:** Angiotensin II; SC; Mice; 2004; 4 weeks; Dose (1.1 mg/kg/day); animal info (8-week-old); cardiovascular;

**Q6846:** D. P. Zankov, F. N. Salloum, M. Jiang and G. N. Tseng. Chronic in vivo angiotensin II administration differentially modulates the slow delayed rectifier channels in atrial and ventricular myocytes. *Heart Rhythm* 2019;16(1):108-116

**ALZET Comments:** Angiotensin II; Saline; SC; Guinea pig; 2004; 4-6 weeks; Dose (60µg/µL); Controls received mp w/ vehicle; cardiovascular;

**Q6993:** J. Wang, H. Sun, Y. Zhou, K. Huang, J. Que, Y. Peng, J. Wang, C. Lin, Y. Xue and K. Ji. Circular RNA microarray expression profile in 3,4-benzopyrene/angiotensin II-induced abdominal aortic aneurysm in mice. *J Cell Biochem* 2019;

**ALZET Comments:** Angiotensin II; SC; Mice; 2006; 6 weeks; Dose (0.9 mg/kg/d); animal info (Male C57B/6 J mice, 8-10 months, 35-40 g ); cardiovascular;

**R0375:** H. Wakui, K. Azushima, K. Ohki, K. Uneda, R. Kobayashi, T. Suzuki and K. Tamura. An Emerging Role of the Angiotensin Receptor Binding Protein ATRAP as a Possible Novel Player in the Pathophysiology of Visceral Obesity and Metabolic Disorders. 2019;189-209

**ALZET Comments:** Angiotensin II; SC; Mice; 14 days; Controls received mp w/ vehicle; cardiovascular;

**Q6889:** Y. Tanaka, S. Kita, H. Nishizawa, S. Fukuda, Y. Fujishima, Y. Obata, H. Nagao, S. Masuda, Y. Nakamura, Y. Shimizu, R. Mineo, T. Natsukawa, T. Funahashi, B. Ranscht, S. I. Fukada, N. Maeda and I. Shimomura. Adiponectin promotes muscle regeneration through binding to T-cadherin. *Sci Rep* 2019;9(1):16

**ALZET Comments:** Angiotensin II; Acetic Acid; SC; Mice (knockout); 2002; 7 days; Dose (2.4 mg/kg/day); 0.01M acetic acid used; animal info (Adiponectin (APN) KO and T-cadherin (T-cad) KO mice; 12-16 weeks of age);

**Q6793:** G. She, Y. J. Ren, Y. Wang, M. C. Hou, H. F. Wang, W. Gou, B. C. Lai, T. Lei, X. J. Du and X. L. Deng. KCa3.1 Channels Promote Cardiac Fibrosis Through Mediating Inflammation and Differentiation of Monocytes Into Myofibroblasts in Angiotensin II -Treated Rats. *J Am Heart Assoc* 2019;8(1):e010418

**ALZET Comments:** Angiotensin II; Saline; SC; Rat; 4 weeks; Dose (0.8 mg/kg/day); Controls received mp w/ vehicle; animal info (Male Sprague Dawley rats (180-200 g)); cardiovascular;

**Q7265:** R. K. Sharma, T. Yang, A. C. Oliveira, G. O. Lobaton, V. Aquino, S. Kim, E. M. Richards, C. J. Pepine, C. Sumners and M. K. Raizada. Microglial Cells Impact Gut Microbiota and Gut Pathology in Angiotensin II-Induced Hypertension. *Circ Res* 2019;124(5):727-736

**ALZET Comments:** Angiotensin II, Tetracycline-3, chemically modified; Saline; CSF, artificial; SC; CSF/CNS (left lateral ventricle); Rat; 2004; 4 weeks; Dose: Ang II (200 ng/kg/min), CMT-3 (3.5µg/h); Controls received mp w/ vehicle; animal info (Sprague-Dawley rats (250-280g) and six-week old male SHR and their normotensive controls); Brain coordinates (1.0mm caudal to bregma, 1.8mm lateral to midline and 4.4mm ventral to the skull surface); cardiovascular;

**Q6888:** T. Sato, A. Kadowaki, T. Suzuki, H. Ito, H. Watanabe, Y. Imai and K. Kuba. Loss of Apelin Augments Angiotensin II-Induced Cardiac Dysfunction and Pathological Remodeling. *Int J Mol Sci* 2019;20(2):



**ALZET Comments:** Angiotensin II; SC; Mice; mice (knockout); 1002; 2 weeks; Dose (1mg/kg/d); Controls received mp w/ vehicle; animal info (12-month-old Apelin KO mice and wild type (WT) mice);.

**Q6789:** M. Salmon, B. Schaheen, M. Spinosa, W. Montgomery, N. H. Pope, J. P. Davis, W. F. Johnston, A. K. Sharma, G. K. Owens, J. L. Merchant, Z. E. Zehner, G. R. Upchurch, Jr. and G. Ailawadi. ZFP148 (Zinc-Finger Protein 148) Binds Cooperatively With NF-1 (Neurofibromin 1) to Inhibit Smooth Muscle Marker Gene Expression During Abdominal Aortic Aneurysm Formation. *Arterioscler Thromb Vasc Biol* 2019;39(1):73-88

**ALZET Comments:** Angiotensin II; Mice (knockout); Mice (transgenic); 2004; 28 days; Dose (1000 ng/kg per min); animal info (10- to 12-week-old ZFP148 flx/flx, flx/wt, and wt/wt apoE<sup>-/-</sup> male mice); cardiovascular;.

**Q6951:** R. Rai, T. Sun, V. Ramirez, E. Lux, M. Eren, D. E. Vaughan and A. K. Ghosh. Acetyltransferase p300 inhibitor reverses hypertension-induced cardiac fibrosis. *J Cell Mol Med* 2019;

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 2004; 4 weeks; Dose (1500 ng/kg/min); Controls received mp w/ vehicle; animal info (8-week old C57BL/6 male); cardiovascular;.

**Q6952:** E. Radwan, V. Mali, S. Haddox, A. El-Noweih, M. Mandour, J. Ren, S. Belmadani and K. Matrougui. Treg cells depletion is a mechanism that drives microvascular dysfunction in mice with established hypertension. *Biochim Biophys Acta Mol Basis Dis* 2019;1865(2):403-412

**ALZET Comments:** Angiotensin II; SC; Mice; 1004; 4 weeks; Dose (400 ng/kg/min); animal info (8 weeks-old males); cardiovascular;.

**Q6959:** T. P. Mikolajczyk, R. Nosalski, D. S. Skiba, J. Koziol, M. Mazur, A. S. Justo-Junior, P. Kowalczyk, Z. Kusmierczyk, A. Schramm-Luc, K. Luc, P. Maffia, D. Graham, A. K. Kiss, M. Naruszewicz and T. J. Guzik. 1,2,3,4,6 penta-O-galloyl-beta-D-glucose modulates perivascular inflammation and prevents vascular dysfunction in angiotensin II-induced hypertension. *Br J Pharmacol* 2019;

**ALZET Comments:** Angiotensin II; SC; Mice; 2002; 14 days; Dose (490 ng/min/kg); animal info (male 12-week old C57B1/6 mice); cardiovascular;.

**Q6961:** A. J. Medina, O. A. Pinilla, E. L. Portiansky, C. I. Caldiz and I. L. Ennis. Silencing of the Na(+)/H(+) exchanger 1(NHE-1) prevents cardiac structural and functional remodeling induced by angiotensin II. *Exp Mol Pathol* 2019;107(1-9

**ALZET Comments:** Angiotensin II; Physiologic solution, sterile; SC; Rat; 2004; 28 days; Dose (200 µg/kg/day); animal info (Male Wistar rats, 5 month old); cardiovascular;.

**Q7007:** J. Li, S. Wang, Y. L. Zhang, J. Bai, Q. Y. Lin, R. S. Liu, X. H. Yu and H. H. Li. Immunoproteasome Subunit beta5i Promotes Ang II (Angiotensin II)-Induced Atrial Fibrillation by Targeting ATRAP (Ang II Type I Receptor-Associated Protein) Degradation in Mice. *Hypertension* 2019;73(1):92-101

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 1004; 3 weeks; Dose (2000 ng/kg/minute); Controls received mp w/ vehicle; animal info (8 to 12 weeks old); cardiovascular;.

**Q7003:** F. D. Li, H. Nie, C. Tian, H. X. Wang, B. H. Sun, H. L. Ren, X. Zhang, P. Z. Liao, D. Liu, H. H. Li and Y. H. Zheng. Ablation and Inhibition of the Immunoproteasome Catalytic Subunit LMP7 Attenuate Experimental Abdominal Aortic Aneurysm Formation in Mice. *J Immunol* 2019;202(4):1176-1185

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 2004; 28 days; Dose (1000 ng/kg/min); Controls received mp w/ vehicle; animal info (male mice, 10–12 wk old); cardiovascular;.

**Q6966:** S. Kroller-Schon, T. Jansen, T. L. P. Tran, M. Kvandova, S. Kalinovic, M. Oelze, J. F. Keaney, Jr., M. Foretz, B. Viollet, A. Daiber, S. Kossmann, J. Lagrange, K. Frenis, P. Wenzel, T. Munzel and E. Schulz. Endothelial alpha1AMPK modulates angiotensin II-mediated vascular inflammation and dysfunction. *Basic Res Cardiol* 2019;114(2):8

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 1007D; 7 days; Dose (0.5 mg/kg/day); 0.9% % NaCl used; Controls received mp w/ vehicle; animal info (6 week old mice); gene therapy;.



- Q6968:** J. A. Keefe, S. J. Hwang, T. Huan, M. Mendelson, C. Yao, P. Courchesne, M. A. Saleh, M. S. Madhur and D. Levy. Evidence for a Causal Role of the SH2B3-beta2M Axis in Blood Pressure Regulation. *Hypertension* 2019;73(2):497-503  
**ALZET Comments:** Angiotensin II; Saline; acetic acid; SC; Mice; 2002; 14 days; Dose (490 ng/kg/ min); animal info (8-12 week old Sh2b3-deficient and WT C57B1/6J mice);
- Q6970:** R. Jitmana, S. Raksapharm, A. Kijawornrat, V. Saengsirisuwan and T. Bupha-Intr. Role of cardiac mast cells in exercise training-mediated cardiac remodeling in angiotensin II-infused ovariectomized rats. *Life Sci* 2019;219(209-218)  
**ALZET Comments:** Angiotensin II; Saline, Acetic acid; SC; Rat; 2004; 4 weeks; Dose (0.7 mg/kg/d); 2% acetic acid used; animal info (8-week old Female Sprague-Dawley rats); cardiovascular;
- Q6780:** Y. Izawa-Ishizawa, M. Imanishi, Y. Zamami, H. Toya, T. Nagao, M. Morishita, K. Tsuneyama, Y. Horinouchi, Y. Kihira, K. Takechi, Y. Ikeda, K. Tsuchiya, M. Yoshizumi, T. Tamaki and K. Ishizawa. Development of a novel aortic dissection mouse model and evaluation of drug efficacy using in-vivo assays and database analyses. *J Hypertens* 2019;37(1):73-83  
**ALZET Comments:** Angiotensin II; B-aminopropionitrile; Saline; SC; Mice; 1002; 1 week; 6 weeks; Dose (Angiotensin II (1000 ng/kg per day); B-aminopropionitrile (150 mg/kg/day)); Controls received mp w/ vehicle; animal info (Male C57BL/6J mice (10–12 weeks; 25–30 g)); Multiple pumps per animal (2); B-aminopropionitrile is an enzyme inhibitor (lysyl oxidase inhibitor); cardiovascular;
- Q6788:** M. F. Iulita, S. Duchemin, D. Vallerand, T. Barhoumi, F. Alvarez, R. Istomine, C. Laurent, J. Youwakim, P. Paradis, N. Arbour, C. A. Piccirillo, E. L. Schiffrin and H. Girouard. CD4(+) Regulatory T Lymphocytes Prevent Impaired Cerebral Blood Flow in Angiotensin II-Induced Hypertension. *J Am Heart Assoc* 2019;8(1):e009372  
**ALZET Comments:** Angiotensin II; Interleukin-10, recomb. human; PBS; SC; Mice; 1002; 14 days; Dose (Angiotensin II (1000 ng/kg/min); IL-10 (60ng/day)); Controls received mp w/ vehicle; animal info (Eight- to 10-week-old C57BL/6 male mice); cardiovascular;
- Q5693:** J. Hong, Z. Hu, Q. Wu, C. Tang, J. Hu, R. Chen, B. Li and Z. Wang. The deregulation of STIM1 and store operative calcium entry impaired aortic smooth muscle cells contractility in aortic medial degeneration. *Biosci Rep* 2019;39(1):  
**ALZET Comments:** Angiotensin II; Saline; Mice (knockout); 2004; 4 weeks; Dose (1 mg/kg/min); Controls received mp w/ vehicle; animal info (Six-week-old male ApoE<sup>-/-</sup> mice); cardiovascular.
- Q5702:** S. He, F. Nian, W. Chen, L. Yin, M. L. Auchoybur, Z. Tao, S. Tang and X. Chen. I-kappaB kinase-epsilon knockout protects against angiotensin II induced aortic valve thickening in apolipoprotein E deficient mice. *Biomed Pharmacother* 2019;109(1287-1295)  
**ALZET Comments:** Angiotensin II; Saline; SC; Mice (knockout); 4 weeks; Dose (1 µg/kg/min); Controls received mp w/ vehicle; animal info (IKKε and ApoE knockout group of mice (male; 8 weeks old; 27–30 g.)); cardiovascular;
- Q6973:** J. Han, X. Shi, Y. Du, F. Shi, B. Zhang, Z. Zheng, J. Xu and L. Jiang. Schisandrin C targets Keap1 and attenuates oxidative stress by activating Nrf2 pathway in Ang II-challenged vascular endothelium. *Phytother Res* 2019;  
**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 1002; 2 weeks; Dose (1.4 mg/kg/day); animal info (4-week old male C57BL/6 mice weighing 18–22 g); cardiovascular;
- Q6976:** H. Dong, S. Ming, J. Fang, Y. Li and L. Liu. Icariin ameliorates angiotensin II-induced cerebrovascular remodeling by inhibiting Nox2-containing NADPH oxidase activation. *Hum Cell* 2019;32(1):22-30  
**ALZET Comments:** Angiotensin II; Saline; SC; Rat; 2004; 4 weeks; Dose (120 ng/min)); Controls received mp w/ vehicle; animal info (6-week-old (180–200 g) Sprague–Dawley rats); post op. care (Icariin (10 mg/kg/day) by gavage for 4 weeks);
- Q6979:** S. Y. Choi, H. J. Kee, S. Sun, Y. M. Seok, Y. Ryu, G. R. Kim, S. J. Kee, M. Pflieger, T. Kurz, M. U. Kassack and M. H. Jeong. Histone deacetylase inhibitor LMK235 attenuates vascular constriction and aortic remodeling in hypertension. *J Cell Mol Med* 2019;  
**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 1002; 14 days; Dose (1.3 mg/kg/day); Controls received mp w/ vehicle; animal info: CD-1 mice (8 weeks old,30-35 g);



**Q6880:** Z. Cheng, M. Zhang, J. Hu, J. Lin, X. Feng, S. Wang, T. Wang, E. Gao, H. Wang and D. Sun. Cardiac-specific Mst1 deficiency inhibits ROS-mediated JNK signalling to alleviate Ang II-induced cardiomyocyte apoptosis. *J Cell Mol Med* 2019;23(1):543-555

**ALZET Comments:** Angiotensin II; Saline; SC; Mice (knockout); 2006; 46 days; Dose (1000 ng/kg per/min); Controls received mp w/ vehicle; animal info (Cardiomyocyte-specific Mst1 knockout (Mst1Δ/Δ) mice); cardiovascular;

**Q6980:** D. Chen, Z. Li, P. Bao, M. Chen, M. Zhang, F. Yan, Y. Xu, C. Ji, X. Hu, D. Sanchis, Y. Zhang and J. Ye. Nrf2 deficiency aggravates Angiotensin II-induced cardiac injury by increasing hypertrophy and enhancing IL-6/STAT3-dependent inflammation. *Biochim Biophys Acta Mol Basis Dis* 2019;

**ALZET Comments:** Angiotensin II; Saline, acetic acid; SC; Mice; 14 days; Dose (2 mg/h/day); animal info (male, 3 months old); cardiovascular;

**Q6879:** B. Badzyska, I. Baranowska, O. Gawrys and J. Sadowski. Evidence against a crucial role of renal medullary perfusion in blood pressure control of hypertensive rats. *J Physiol* 2019;597(1):211-223

**ALZET Comments:** Angiotensin II; bradykinin; Saline; SC; kidney (left renal medulla); Rat; 2002; 14 days; 28 days; Dose (Angiotensin II (35μg/kg/d), bradykinin (0.27 mg/kg/hr); animal info (S-D rats (n = 16), aged 12 weeks, weighing 280–340 g); pumps replaced every 2 weeks; ALZET microcannula set used; cardiovascular; “Extending bradykinin-induced medullary vasodilatation over 2weeks was evenmore challenging;we found that this can indeed be accomplished by chronic intramedullary infusion of Bk using implanted osmotic minipumps.” P.219.

**Q6715:** A. W. Akerman, W. M. Blanding, R. E. Stroud, E. K. Nadeau, R. Mukherjee, J. M. Ruddy, M. R. Zile, J. S. Ikonomidis and J. A. Jones. Elevated Wall Tension Leads to Reduced miR-133a in the Thoracic Aorta by Exosome Release. *J Am Heart Assoc* 2019;8(1):e010332

**ALZET Comments:** Angiotensin II; SC; Mice; 2004; 28 days; Dose (1.46 mg/kg per day); animal info (WT and C57BL/6 background); cardiovascular;

**Q7167:** M. Zhou, Y. Ding, L. Cai, Y. Wang, C. Lin and Z. Shi. Low molecular weight fucoidan attenuates experimental abdominal aortic aneurysm through interfering the leukocyte-endothelial cells interaction. *Mol Med Rep* 2018;17(5):7089-7096

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 2004; 28 days; Dose (1,000 ng/kg/min);Controls received mp w/ vehicle; animal info (6 month old male apolipoprotein E deficient (apoE / ) mice weighing 35 40 g);

**Q7166:** Y. Zhao, C. Wang, C. Wang, X. Hong, J. Miao, Y. Liao, L. Zhou and Y. Liu. An essential role for Wnt/beta-catenin signaling in mediating hypertensive heart disease. *Sci Rep* 2018;8(1):8996

**ALZET Comments:** Angiotensin II; PBS; SC; Rat; 2004; 4 weeks; Dose (450 ng/min/kg); Controls received mp w/ vehicle; animal info (Male Sprague Dawley rats, weighing 200–220 g);

**Q7164:** Z. Zhang, K. Liang, G. Zou, X. Chen, S. Shi, G. Wang, K. Zhang, K. Li and S. Zhai. Inhibition of miR-155 attenuates abdominal aortic aneurysm in mice by regulating macrophage-mediated inflammation. *Biosci Rep* 2018;38(3):

**ALZET Comments:** Angiotensin II; Saline; SC; SC; 1004; 28 days; Dose (800 ng/kg/min); Controls received mp w/ vehicle; animal info (Eight-week-old male ApoE–/– mice);

**Q7033:** Y. L. Zhang, L. Y. Zhi, L. X. Zou, C. Chen, J. Bai, Q. Y. Lin, S. Lai, L. Wang, Y. Liu and H. H. Li. Analysis of Genes Related to Angiotensin II-Induced Arterial Injury Using a Time Series Microarray. *Cell Physiol Biochem* 2018;48(3):983-992

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 1007D; 1, 3, and 7 days; Dose (1500 ng/kg/min); Controls received mp w/ vehicle; animal info (C57BL/6J male mice; 8-10 weeks-old); Systolic blood pressure was detected by the tail-cuff method;

**Q7034:** Zhang Y, Gao F, Tang Y, Xiao J, Li C, Ouyang Y and H. Y. Valproic acid regulates Ang II-induced pericyte-myofibroblast trans-differentiation via MAPK/ERK pathway. *AMERICAN JOURNAL OF TRANSLATIONAL RESEARCH* 2018;10(7):1976-1989

**ALZET Comments:** Angiotensin II; SC; Rat; 2004; 4 weeks; Dose (1.5 μg/kg/min); animal info (Sprague Dawley rat);



**Q7165:** Yanru Zhao<sup>1</sup>, Mengwen Yan<sup>1,2,\*</sup>, Chen Chen<sup>1,\*</sup>, Wei Gong<sup>1,3</sup>, Zhongwei Yin<sup>1</sup>, Huaping and J. F. Li<sup>1</sup>, Xin A. Zhang<sup>4</sup>, Dao Wen Wang<sup>1</sup> and Houjuan Zuo<sup>1</sup>. MiR-124 aggravates failing hearts by suppressing CD151-facilitated angiogenesis in heart. *Oncotarget* 2018;9(18):14382-14396

**ALZET Comments:** Angiotensin II; SC; Mice; 1004; 28 days; Dose (1.5 mg/kg/day); animal info (Male C57BL/6 mice (22–25 g));.

**Q7042:** D. Yang, C. Xiao, F. Long, Z. Su, W. Jia, M. Qin, M. Huang, W. Wu, R. Suguro, X. Liu and Y. Zhu. HDAC4 regulates vascular inflammation via activation of autophagy. *Cardiovasc Res* 2018;114(7):1016-1028

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 2004; 4 weeks; Dose (1.5 mg/kg/d); animal info (6-8 week old C57BL/6 mice);.

**Q6995:** M. Waldman, K. Cohen, D. Yadin, V. Nudelman, D. Gorfil, M. Laniado-Schwartzman, R. Kornwoski, D. Aravot, N. G. Abraham, M. Arad and E. Hochhauser. Regulation of diabetic cardiomyopathy by caloric restriction is mediated by intracellular signaling pathways involving 'SIRT1 and PGC-1alpha'. *Cardiovasc Diabetol* 2018;17(1):111

**ALZET Comments:** Angiotensin II; SC; Mice; 4 weeks; Dose (1000 ng/kg/min);.

**Q6898:** T. Tanaka, M. Kelly, Y. Takei and D. Yamanouchi. RANKL-mediated osteoclastogenic differentiation of macrophages in the abdominal aorta of angiotensin II-infused apolipoprotein E knockout mice. *J Vasc Surg* 2018;68(6S):48S-59S e1

**ALZET Comments:** Angiotensin II; SC; Mice (knockout); 1004; 28 days; Dose (1000 ng/kg/min); animal info (Retired male breeder apoE<sup>-/-</sup> mice >6 months of age); cardiovascular;.

**Q7242:** Y. Takeda, M. Demura, F. Wang, S. Karashima, T. Yoneda, M. Kometani, A. Hashimoto, D. Aono, S. I. Horike, M. Meguro-Horike, M. Yamagishi and Y. Takeda. Epigenetic Regulation of Aldosterone Synthase Gene by Sodium and Angiotensin II. *J Am Heart Assoc* 2018;7(10):

**ALZET Comments:** Angiotensin II, Candesartan; PMC6015301; SC; Rat; Pump model not stated; 4 weeks; Dose (Ang II 200 ng/kg/min, Candesartan 1mg/kg/day); animal info (Male, Wistar, 6 weeks old); Candesartan aka Ang II type 1 receptor antagonist; gene therapy; .

**Q6897:** Q. Shu, S. Lai, X. M. Wang, Y. L. Zhang, X. L. Yang, H. L. Bi and H. H. Li. Administration of ubiquitin-activating enzyme UBA1 inhibitor PYR-41 attenuates angiotensin II-induced cardiac remodeling in mice. *Biochem Biophys Res Commun* 2018;505(1):317-324

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 1002; 2 weeks; Dose (1000 ng/kg/min); animal info (8-10 week old Male wild-type (WT) C57BL/6 mice); cardiovascular;.

**Q7044:** P. Shridas, M. C. De Beer and N. R. Webb. High-density lipoprotein inhibits serum amyloid A-mediated reactive oxygen species generation and NLRP3 inflammasome activation. *J Biol Chem* 2018;293(34):13257-13269

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 2004; 28 days; Dose (1,000 ng/kg/min); Controls received mp w/ vehicle; animal info (12–14–week-old C57BL/6);.

**Q6893:** R. Rong, G. Hu, W. Wang, Y. Muroya, T. Miura, Y. Ogawa, M. Kohzuki and O. Ito. Angiotensin II upregulates CYP4A isoform expression in the rat kidney through angiotensin II type 1 receptor. *Prostaglandins Other Lipid Mediat* 2018;139(80-86)

**ALZET Comments:** Angiotensin II; SC; Rat; 2002; Dose (0.17 mg/kg/day or 0.70 mg/kg/day); Controls received mp w/ vehicle; animal info (Eight-week-old male Sprague-Dawley rats); cardiovascular;.

**Q7253:** L. L. Paulo, J. C. Cruz, Z. Zhuge, A. Carvalho-Galvao, M. C. R. Brandao, T. F. Diniz, S. M. Haworth, P. F. Athayde-Filho, V. S. Lemos, J. O. Lundberg, M. F. Montenegro, V. A. Braga and M. Carlstrom. The novel organic mononitrate NDHP attenuates hypertension and endothelial dysfunction in hypertensive rats. *Redox Biol* 2018;15(182-191)

**ALZET Comments:** Angiotensin II; SC; Rat; 14 days; Dose (120 ng/kg/min); animal info (Male Wistar rats 250–300 g); post op. care (treated with NDHP (10 mg/kg i.p.) or vehicle (cremophor in saline) twice per day); cardiovascular;.



**Q7059:** J. Patel, G. Douglas, A. G. Kerr, A. B. Hale and K. M. Channon. Effect of irradiation and bone marrow transplantation on angiotensin II-induced aortic inflammation in ApoE knockout mice. *Atherosclerosis* 2018;276(74-82)

**ALZET Comments:** Angiotensin II; SC; Mice (knockout); 14 days; Dose (0.8, 1.5, or 3 mg/kg/day); animal info (BMT or non BMT male mice); cardiovascular;.

**Q7252:** J. Patel, S. Chuaiphichai, G. Douglas, C. M. Gorvin and K. M. Channon. Vascular wall regulator of G-protein signalling-1 (RGS-1) is required for angiotensin II-mediated blood pressure control. *Vascul Pharmacol* 2018;108(15-22)

**ALZET Comments:** Angiotensin II; SC; Mice; 14 days; animal info (16 week old chimeric male mice); Dose (3mg/kg/day); cardiovascular;.

**Q7251:** J. H. Park, S. W. Kim, M. J. Cha, N. Yoon, C. Y. Lee, J. Lee, H. H. Seo, S. Shin, J. W. Choi, S. Lee, S. Lim and K. C. Hwang. TAK-733 inhibits inflammatory neointimal formation by suppressing proliferation, migration, and inflammation in vitro and in vivo. *Exp Mol Med* 2018;50(4):37

**ALZET Comments:** Angiotensin II; SC; Rat; 2004; 2 Weeks; Dose (500 ng/kg/min); Controls received mp w/ saline; animal info (Male Sprague-Dawley rats weighing 250-300 g); cardiovascular;.

**Q7250:** S. Ohno-Urabe, H. Aoki, M. Nishihara, A. Furusho, S. Hirakata, N. Nishida, S. Ito, M. Hayashi, H. Yasukawa, T. Imaizumi, H. Akashi, H. Tanaka and Y. Fukumoto. Role of Macrophage Socs3 in the Pathogenesis of Aortic Dissection. *J Am Heart Assoc* 2018;7(2):

**ALZET Comments:** Angiotensin II; Mice; 1004; 4 weeks; Dose (1 ug/min/kg); Controls received mp w/ Saline; animal info (male mice 12-14 weeks); animal info (male mice 12-14 weeks);.

**Q7247:** K. Ohki, H. Wakui, N. Kishio, K. Azushima, K. Uneda, S. Haku, R. Kobayashi, K. Haruhara, S. Kinguchi, T. Yamaji, T. Yamada, S. Minegishi, T. Ishigami, Y. Toya, A. Yamashita, K. Imajo, A. Nakajima, I. Kato, K. Ohashi and K. Tamura.

Angiotensin II Type 1 Receptor-associated Protein Inhibits Angiotensin II-induced Insulin Resistance with Suppression of Oxidative Stress in Skeletal Muscle Tissue. *Sci Rep* 2018;8(1):2846

**ALZET Comments:** Angiotensin II; SC; Mice; 2002; 14 Days; Dose (100 ng/kg/min); animal info (male WT and TG mice (9–11 weeks old));.

**Q6911:** M. Nogi, K. Satoh, S. Sunamura, N. Kikuchi, T. Satoh, R. Kurosawa, J. Omura, M. Elias-Al-Mamun, M. Abdul Hai Siddique, K. Numano, S. Kudo, S. Miyata, M. Akiyama, K. Kumagai, S. Kawamoto, Y. Saiki and H. Shimokawa. Small GTP-Binding Protein GDP Dissociation Stimulator Prevents Thoracic Aortic Aneurysm Formation and Rupture by Phenotypic Preservation of Aortic Smooth Muscle Cells. *Circulation* 2018;138(21):2413-2433

**ALZET Comments:** Angiotensin II; Saline; SC; Mice (knockout); 2004; 4 weeks; Dose (1000 ng/kg/min); animal info (6- to 8-week-old male Apoe<sup>-/-</sup>SmgGDS<sup>+/-</sup>); cardiovascular;.

**Q6060:** X. Q. Ni, W. W. Lu, J. S. Zhang, Q. Zhu, J. L. Ren, Y. R. Yu, X. Y. Liu, X. J. Wang, M. Han, Q. Jing, J. Du, C. S. Tang and Y. F. Qi. Inhibition of endoplasmic reticulum stress by intermedin1-53 attenuates angiotensin II-induced abdominal aortic aneurysm in ApoE KO Mice. *Endocrine* 2018;62(1):90-106

**ALZET Comments:** Angiotensin II, Intermedin 1-53; Saline; SC; Mice; 1004; 28 days; Dose (Ang II (1000 ng/kg/min), IMD1-53 (300 ng/kg/h)); Controls received mp w/ vehicle; animal info (5 month old ApoE KO mice in a C57BL/6 background); cardiovascular;.

**Q6826:** B. Neubauer, J. Schrankl, D. Steppan, K. Neubauer, M. L. Sequeira-Lopez, L. Pan, R. A. Gomez, T. M. Coffman, K. W. Gross, A. Kurtz and C. Wagner. Angiotensin II Short-Loop Feedback: Is There a Role of Ang II for the Regulation of the Renin System In Vivo? *Hypertension* 2018;71(6):1075-1082

**ALZET Comments:** Angiotensin II; Saline, isotonic; Saline; Mice; 1002; 10 days; Dose (2.5 ug/kg/min); Controls received mp w/ vehicle; animal info (6-9 week old);.

**Q7239:** M. Narikawa, M. Umemura, R. Tanaka, T. Fujita, U. Yokoyama, T. Ishigami, K. Kimura, K. Tamura and Y. Ishikawa. Acute Hyperthermia Inhibits TGF-beta1-induced Cardiac Fibroblast Activation via Suppression of Akt Signaling. *Sci Rep* 2018;8(1):6277



**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 2002; 2 Weeks; Dose (1.5 µg/kg/min); Controls received mp w/ vehicle; animal info (8-week-old male C57BL/6 mice); cardiovascular;.

**Q7237:** N. Muraya, D. Kadowaki, S. Miyamura, K. Kitamura, K. Uchimura, Y. Narita, Y. Miyamoto, V. T. G. Chuang, K. Taguchi, T. Maruyama, M. Otagiri and S. Hirata. Benzbromarone Attenuates Oxidative Stress in Angiotensin II- and Salt-Induced Hypertensive Model Rats. *Oxid Med Cell Longev* 2018;2018(7635274

**ALZET Comments:** Angiotensin II; SC; Rat; 2004; 28 Days; Dose (120 ng/min); Controls received mp w/ vehicle; animal info (Six-week-old male Sprague-Dawley); cardiovascular;.

**Q7235:** H. L. Morgan, E. Butler, S. Ritchie, F. Herse, R. Dechend, E. Beattie, M. W. McBride and D. Graham. Modeling Superimposed Preeclampsia Using Ang II (Angiotensin II) Infusion in Pregnant Stroke-Prone Spontaneously Hypertensive Rats. *Hypertension* 2018;72(1):208-218

**ALZET Comments:** Angiotensin II; Saline; SC; Rat; 2002; 14 Days; Dose (500 or 1000 ng/kg); Controls received mp w/ vehicle; animal info ( SHRSP and WKY rats, 12 weeks (±4 days)); cardiovascular;.

**Q7230:** S. Metghalchi, M. Vandestienne, Y. Haddad, B. Esposito, J. Dairou, A. Tedgui, Z. Mallat, S. Potteaux and S. Taleb. Indoleamine 2,3-dioxygenase knockout limits angiotensin II-induced aneurysm in low density lipoprotein receptor-deficient mice fed with high fat diet. *PLoS One* 2018;13(3):e0193737

**ALZET Comments:** Angiotensin II; PBS; SC; Mice; 2004; 7 days, 28 days; Dose (1000 ng/min/kg); animal info (8 and 12 weeks of age); cardiovascular;.

**Q7207:** S. Maruyama, C. L. Wu, S. Yoshida, D. Zhang, P. H. Li, F. Wu, J. Parker Duffen, R. Yao, B. Jardin, I. M. Adham, R. Law, J. Berger, R. Di Marchi and K. Walsh. Relaxin Family Member Insulin-Like Peptide 6 Ameliorates Cardiac Fibrosis and Prevents Cardiac Remodeling in Murine Heart Failure Models. *J Am Heart Assoc* 2018;7(12):

**ALZET Comments:** Angiotensin II, Insulin-like peptide 6; Saline, ammonium bicarbonate; SC; Mice; 1002, 2002; 14 days; Dose (Ang II 2 mg/kg per day, INSL6 protein 50–70 nmol/kg per day); 8.5 pH ammonium bicarbonate used; Controls received mp w/ vehicle; cardiovascular;.

**Q7204:** D. Macias, A. S. Cowburn, H. Torres-Torrelo, P. Ortega-Saenz, J. Lopez-Barneo and R. S. Johnson. HIF-2alpha is essential for carotid body development and function. *Elife* 2018;7(**ALZET Comments:** Angiotensin II; SC; Mice; 1002; 2 weeks; Dose (490 ng/min/kg); animal info (C57BL/6J wild type mice);.

**Q7223:** J. Lu, F. Xu, Y. Zhang, H. Lu and J. Zhang. CIC-2 knockdown prevents cerebrovascular remodeling via inhibition of the Wnt/beta-catenin signaling pathway. *Cell Mol Biol Lett* 2018;23(29

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 1002; 1002; Dose (1.5 mg/kg/day); Controls received mp w/ vehicle; animal info (Male, 12 weeks old, 20-25 g, C57BL/6); gene therapy;.

**Q7222:** R. Loperena, J. P. Van Beusecum, H. A. Itani, N. Engel, F. Laroumanie, L. Xiao, F. Eljovich, C. L. Laffer, J. S. Gnecco, J. Noonan, P. Maffia, B. Jasiewicz-Honkisz, M. Czesnikiewicz-Guzik, T. Mikolajczyk, T. Sliwa, S. Dikalov, C. M. Weyand, T. J. Guzik and D. G. Harrison. Hypertension and increased endothelial mechanical stretch promote monocyte differentiation and activation: roles of STAT3, interleukin 6 and hydrogen peroxide. *Cardiovasc Res* 2018;114(11):1547-1563

**ALZET Comments:** Angiotensin II; SC; Mice; 2002; 6 days; Dose (490 ng/kg/min); Controls received mp w/ vehicle; animal info (C57BL/6, male, 3 months old); cardiovascular;.

**Q7221:** G. Logghe, B. Trachet, L. Aslanidou, P. Villaneuva-Perez, J. De Backer, N. Stergiopoulos, M. Stampanoni, H. Aoki and P. Segers. Propagation-based phase-contrast synchrotron imaging of aortic dissection in mice: from individual elastic lamella to 3D analysis. *Sci Rep* 2018;8(1):2223

**ALZET Comments:** Angiotensin II, aminopropionitrile monofumarate, beta-; SC; Mice; 2002; 3, 7, or 14 days; Dose (1 µg/kg/day-Ang II, 150 mg/kg/day-BAPN); Dose (1 µg/kg/day-Ang II, 150 mg/kg/day-BAPN); cardiovascular;.

**Q7217:** M. Liu, J. Zhao, Q. Zhou, Y. Peng, Y. Zhou and Y. Jiang. Primary Cilia Deficiency Induces Intracranial Aneurysm. *Shock* 2018;49(5):604-611



**ALZET Comments:** Angiotensin II; SC; Mice; Pump model not stated; 20 days; Dose (1,000 ng/kg/min); animal info (10-12 weeks old, C57Bl/6J, PKD1-KO, PKD2-KO, IFT88-KO); cardiovascular;.

**Q7201:** M. Liu, J. Zhao, Q. Zhou, Y. Peng, Y. Zhou and Y. Jiang. Primary Cilia Deficiency Induces Intracranial Aneurysm. *Shock* 2018;49(5):604-611

**ALZET Comments:** Angiotensin II; SC; Mice; 20 days; Dose (1,000 ng/kg/min); animal info (10 to 12-week-old C57Bl/6J, polycystin 1 knockout, Polycystin 2 knockout, and intraflagellar transport 88 knockout mice);.

**Q6920:** J. R. Lin, Y. J. Zheng, Z. B. Zhang, W. L. Shen, X. D. Li, T. Wei, C. C. Ruan, X. H. Chen, D. L. Zhu and P. J. Gao. Suppression of Endothelial-to-Mesenchymal Transition by SIRT (Sirtuin) 3 Alleviated the Development of Hypertensive Renal Injury. *Hypertension* 2018;72(2):350-360

**ALZET Comments:** Angiotensin II; Saline; SC; Mice (knockout); Mice (transgenic); 4 weeks; Dose (1000 ng/kg/min); Controls received mp w/ vehicle; animal info (Male WT (wild type), SIRT3<sup>-/-</sup>, flox-flox N-Tg (nontransgenic), and SIRT3-TgEC mice at 8 weeks of age); cardiovascular;.

**Q6921:** D. Lian, J. Lai, Y. Wu, L. Wang, Y. Chen, Y. Zhang, K. M. Boini, Y. Huang and Y. Chen. Cathepsin B-Mediated NLRP3 Inflammasome Formation and Activation in Angiotensin II -Induced Hypertensive Mice: Role of Macrophage Digestion Dysfunction. *Cell Physiol Biochem* 2018;50(4):1585-1600

**ALZET Comments:** Angiotensin II; SC; Mice; 1007D; 5 days; Dose (1.5 ng/g/min); animal info (8 week old male C57BL/6N mice weighing approximately 20–22 g); cardiovascular;.

**Q7200:** A. J. A. Leloup, S. De Moudt, C. E. Van Hove, L. Dugaucquier, Z. Vermeulen, V. F. M. Segers, G. W. De Keulenaer and P. Fransen. Short-Term Angiotensin II Treatment Affects Large Artery Biomechanics and Function in the Absence of Small Artery Alterations in Mice. *Front Physiol* 2018;9(582)

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 1007D; 7 days; Dose ((1000 ng/kg/day); animal info (Male, C57BL/6JRj, 6 weeks); cardiovascular;.

**Q7197:** S. B. Laursen, S. Finsen, N. Marcussen, S. E. Quaggin, P. B. L. Hansen and H. Dimke. Endothelial mineralocorticoid receptor ablation does not alter blood pressure, kidney function or renal vessel contractility. *PLoS One* 2018;13(2):e0193032

**ALZET Comments:** Angiotensin II; SC; Mice; 2004; 4 weeks; Dose (1000 ng/kg/min); post op. care (Temgesic); cardiovascular;.

**Q7078:** N. Kumar, T. D. Liao, C. A. Romero, M. Maheshwari, E. L. Peterson and O. A. Carretero. Thymosin beta4 Deficiency Exacerbates Renal and Cardiac Injury in Angiotensin-II-Induced Hypertension. *Hypertension* 2018;71(6):1133-1142

**ALZET Comments:** Angiotensin II; Saline; Acetic acid; SC; Mice; 6 weeks; Dose (980 ng/kg/min); animal info (8-10 week old C57BL/6 and TBeta4 KO mice); cardiovascular;.

**Q7193:** S. M. Kinnunen, M. Tolli, M. J. Valimaki, E. Gao, Z. Szabo, J. Rysa, M. P. A. Ferreira, P. Ohukainen, R. Serpi, A. Correia, E. Makila, J. Salonen, J. Hirvonen, H. A. Santos and H. Ruskoaho. Cardiac Actions of a Small Molecule Inhibitor Targeting GATA4-NKX2-5 Interaction. *Sci Rep* 2018;8(1):4611

**ALZET Comments:** Angiotensin II; SC; Rat; 2002; 2 weeks; Dose (30 mg/kg/day); animal info (Sprague-Dawley, 250-300 g); cardiovascular;.

**Q7148:** T. Kadoguchi, S. Takada, T. Yokota, T. Furihata, J. Matsumoto, M. Tsuda, W. Mizushima, A. Fukushima, K. Okita and S. Kinugawa. Deletion of NAD(P)H Oxidase 2 Prevents Angiotensin II-Induced Skeletal Muscle Atrophy. *Biomed Res Int* 2018;2018(3194917)

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 2004; 4 weeks; Dose (1000 ng/kg/min); Controls received mp w/ vehicle; Controls received mp w/ vehicle; cardiovascular;.





**Q7147:** T. Kadoguchi, K. Shimada, H. Koide, T. Miyazaki, T. Shiozawa, S. Takahashi, T. Aikawa, S. Ouchi, K. Kitamura, Y. Sugita, A. S. Hamad, M. Kunimoto, Y. Sato-Okabayashi, K. Akita, K. Isoda and H. Daida. Possible Role of NADPH Oxidase 4 in Angiotensin II-Induced Muscle Wasting in Mice. *Front Physiol* 2018;9(340)

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 2004; 4 weeks; Dose (1000 ng/ kg/min); animal info (Male, 8-12 weeks old, C57BL/6J, Nox4-exon 4 knockout); cardiovascular;.

**Q7017:** X. Jun, G. Jin, C. Fu, Z. Jinxuan, L. Xuelin, H. Jiabin, Q. Shuaihua, S. Anqi, C. Jianzhou, Z. Lian, Z. Xiwen, Z. Baoli and X. Biao. PM2.5 promotes abdominal aortic aneurysm formation in angiotensin -infused apoe-/- mice. *Biomed Pharmacother* 2018;104(550-557)

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 2004; 4 weeks; Dose (1000 ng/kg/min); Controls received mp w/ vehicle; animal info (8-week old apoe-/- mice); cardiovascular;.

**Q7187:** E. M. Jeong, C. Z. Jin, J. H. Jang, Z. H. Zhao, C. L. Jin, J. H. Lee, K. B. Lee, S. J. Kim, I. G. Kim and Y. H. Zhang. S-nitrosylation of transglutaminase 2 impairs fatty acid-stimulated contraction in hypertensive cardiomyocytes. *Exp Mol Med* 2018;50(4):9

**ALZET Comments:** Angiotensin II; SC; Rat, Mice; 2004; 4 weeks; Dose (125 ng/min/kg); animal info (12 week old TG2-null mice, 12 week old Sprague-Dawley rats); cardiovascular;.

**Q6928:** L. Jagmasevic-Mezesova, P. Svitok, B. Kalocayova, M. Zeman and N. Vrbjar. Sex-specific response of renal Na,K-ATPase to prenatal angiotensin 2 exposure and increased salt intake in offspring. *J Physiol Pharmacol* 2018;69(1):83-90

**ALZET Comments:** Angiotensin II; SC; Rat (pregnant); 2002; 2 weeks; Dose (2 µg/kg/h); animal info (Pregnant Wistar rats); cardiovascular;.

**Q6929:** M. Imanishi, Y. Izawa-Ishizawa, T. Sakurada, Y. Kohara, Y. Horinouchi, E. Sairyo, Y. Zamami, K. Takechi, M. Chuma, K. Fukushima, Y. Ikeda, H. Fujino, M. Yoshizumi, K. Tsuchiya, T. Tamaki and K. Ishizawa. Nitrosonifedipine, a Photodegradation Product of Nifedipine, Suppresses Pharmacologically Induced Aortic Aneurysm Formation. *Pharmacology* 2018;102(5-6):287-299

**ALZET Comments:** Aminopropionitrile fumarate salt, b-; Angiotensin II; SC; Mice; 2002; 2006; 2 weeks; 6 weeks; Dose (β-aminopropionitrile fumarate salt at 150 mg/kg/day for 2 weeks and Ang II at 1,000 ng/kg/min); animal info (10 week old C57BL/6J male mice); cardiovascular;.

**Q7182:** L. Huang, A. Wang, Y. Hao, W. Li, C. Liu, Z. Yang, F. Zheng and M. S. Zhou. Macrophage Depletion Lowered Blood Pressure and Attenuated Hypertensive Renal Injury and Fibrosis. *Front Physiol* 2018;9(473)

**ALZET Comments:** Angiotensin II; IP; Mice; 1002; 2 weeks; Dose (1.4 mg/kg/day); Controls empty mp; animal info (Six-week old male C57BL/6 mice);.

**Q7181:** B. L. Hoh, K. Rojas, L. Lin, H. Z. Fazal, S. Hourani, K. W. Nowicki, M. B. Schneider and K. Hosaka. Estrogen Deficiency Promotes Cerebral Aneurysm Rupture by Upregulation of Th17 Cells and Interleukin-17A Which Downregulates E-Cadherin. *J Am Heart Assoc* 2018;7(8):

**ALZET Comments:** Angiotensin II, estradiol, 17beta-; PBS, Ethanol; SC; Mice; Ang-II (1000 ng/kg/min), Estradiol (0.25 ug/hr); Beta-estradiol reconstituted in a PBS-ethanol solution [9:1]; animal info (8- to 12-week-old female C57BL/6 mice);.

**Q7178:** L. He, Y. Fu, J. Deng, Y. Shen, Y. Wang, F. Yu, N. Xie, Z. Chen, T. Hong, X. Peng, Q. Li, J. Zhou, J. Han, Y. Wang, J. Xi and W. Kong. Deficiency of FAM3D (Family With Sequence Similarity 3, Member D), A Novel Chemokine, Attenuates Neutrophil Recruitment and Ameliorates Abdominal Aortic Aneurysm Development. *Arterioscler Thromb Vasc Biol* 2018;38(7):1616-1631

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 1004; 7 Days; Dose (1000 ng/kg/min); animal info (Four-month-old male ApoE -/-);.

**Q6931:** L. He, Y. Fu, J. Deng, Y. Shen, Y. Wang, F. Yu, N. Xie, Z. Chen, T. Hong, X. Peng, Q. Li, J. Zhou, J. Han, Y. Wang, J. Xi and W. Kong. Deficiency of FAM3D (Family With Sequence Similarity 3, Member D), A Novel Chemokine, Attenuates Neutrophil



Recruitment and Ameliorates Abdominal Aortic Aneurysm Development. *Arterioscler Thromb Vasc Biol* 2018;38(7):1616-1631

**ALZET Comments:** Angiotensin II; Saline; SC; Mice (knockout); 1004; 7 days; Dose (1000 ng/kg/min); animal info (Four-month-old male ApoE<sup>-/-</sup> mice); cardiovascular;

**Q7023:** W. Q. Han, L. Xu, X. F. Tang, W. D. Chen, Y. J. Wu and P. J. Gao. Membrane rafts-redox signalling pathway contributes to renal fibrosis via modulation of the renal tubular epithelial-mesenchymal transition. *J Physiol* 2018;596(16):3603-3616

**ALZET Comments:** Angiotensin II; IP; Rat; 2002; 2 weeks; Dose (200 ng/kg/min); animal info (280 gram, Male Sprague-Dawley rats); functionality of mp verified by measurement of systolic blood pressure by tail-cuff method;

**Q6932:** T. Hadi, L. Boytard, M. Silvestro, D. Alebrahim, S. Jacob, J. Feinstein, K. Barone, W. Spiro, S. Hutchison, R. Simon, D. Rateri, F. Pinet, D. Fenyo, M. Adelman, K. J. Moore, H. K. Eltzschig, A. Daugherty and B. Ramkhalawon. Macrophage-derived netrin-1 promotes abdominal aortic aneurysm formation by activating MMP3 in vascular smooth muscle cells. *Nat Commun* 2018;9(1):5022

**ALZET Comments:** Angiotensin II; PBS; SC; Mice (knockout); 2004; 4 weeks; Dose (1 ug/kg/min); animal info (6-8 week old *Tnfr1<sup>-/-</sup>* and *WTM<sup>0</sup> C57BL/6* mice); cardiovascular;

**Q7143:** E. Guivarc'h, M. Buscato, A. L. Guihot, J. Favre, E. Vessieres, L. Grimaud, J. Wakim, N. J. Melhem, R. Zahreddine, M. Adlanmerini, L. Loufrani, C. Knauf, J. A. Katzenellenbogen, B. S. Katzenellenbogen, J. M. Foidart, P. Gourdy, F. Lenfant, J. F. Arnal, D. Henrion and C. Fontaine. Predominant Role of Nuclear Versus Membrane Estrogen Receptor alpha in Arterial Protection: Implications for Estrogen Receptor alpha Modulation in Cardiovascular Prevention/Safety. *J Am Heart Assoc* 2018;7(13):

**ALZET Comments:** Estrogen-dendrimer conjugate, angiotensin II, Estetrol; DMSO; SC; Mice; 2004; 28 days; Dose (80 ug/kg/day-EDC, 0.5 mg/kg/day- Ang II, 6 mg/kg/day -estetrol ); Controls received mp w/ vehicle; animal info (C57BL/6); cardiovascular;

**Q7140:** R. Gelinas, F. Mailleux, J. Dontaine, L. Bultot, B. Demeulder, A. Ginion, E. P. Daskalopoulos, H. Esfahani, E. Dubois-Deruy, B. Lauzier, C. Gauthier, A. K. Olson, B. Bouchard, C. Des Rosiers, B. Viollet, K. Sakamoto, J. L. Balligand, J. L. Vanoverschelde, C. Beauloye, S. Horman and L. Bertrand. AMPK activation counteracts cardiac hypertrophy by reducing O-GlcNAcylation. *Nat Commun* 2018;9(1):374

**ALZET Comments:** Angiotensin II; Saline; SC; Mouse; Mouse; 5 or 14 days; Dose (2 mg/kg/d); Controls received mp w/ vehicle; animal info (C57BL/6N, Male, 12-16 week old); cardiovascular;

**Q7133:** P. Ferreira-Santos, R. Aparicio, R. Carrón, M. Á. Sevilla, J. Monroy-Ruiz and M. J. Montero. Lycopene-supplemented diet ameliorates cardiovascular remodeling and oxidative stress in rats with hypertension induced by Angiotensin II. *Journal of Functional Foods* 2018;47(279-287)

**ALZET Comments:** Angiotensin II; SC; Rat; 1002; 14 days; Dose (0.3 mg/kg/day); animal info (Male, 7 week old, Wistar); cardiovascular.

**Q7132:** M. Fava, J. Barallobre-Barreiro, U. Mayr, R. Lu, A. Didangelos, F. Baig, M. Lynch, N. Catibog, A. Joshi, T. Barwari, X. Yin, M. Jahangiri and M. Mayr. Role of ADAMTS-5 in Aortic Dilatation and Extracellular Matrix Remodeling. *Arterioscler Thromb Vasc Biol* 2018;38(7):1537-1548

**ALZET Comments:** Angiotensin II; Saline; SC; Mouse; 1004; 4 weeks; Dose (1.44 mg/g/ d); animal info (10-12-week-old, male, *Adamts5 $\Delta$ cat* and *Adamts5<sup>+/+</sup>*); cardiovascular;

**Q6935:** M. Fava, J. Barallobre-Barreiro, U. Mayr, R. Lu, A. Didangelos, F. Baig, M. Lynch, N. Catibog, A. Joshi, T. Barwari, X. Yin, M. Jahangiri and M. Mayr. Role of ADAMTS-5 in Aortic Dilatation and Extracellular Matrix Remodeling. *Arterioscler Thromb Vasc Biol* 2018;38(7):1537-1548

**ALZET Comments:** Angiotensin II; Saline; Mice; 1004; 4 weeks; Dose (1.44 mg/g/d); animal info (10- to 12-week-old male *Adamts5 $\Delta$ cat* and *Adamts5<sup>+/+</sup>* mice); cardiovascular;



**Q5821:** W. Du, A. Piek, E. M. Schouten, C. W. A. van de Kolk, C. Mueller, A. Mebazaa, A. A. Voors, R. A. de Boer and H. H. W. Sillje. Plasma levels of heart failure biomarkers are primarily a reflection of extracardiac production. *Theranostics* 2018;8(15):4155-4169

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 1004; 4 weeks; Dose (1 mg/kg/day); Controls received mp w/ vehicle; animal info (approximately 10-week-old male C57BL/6J mice); cardiovascular; Alzet PEEK tubing 0002612 used;.

**Q7130:** L. E. Dorn, J. M. Petrosino, P. Wright and F. Accornero. CTGF/CCN2 is an autocrine regulator of cardiac fibrosis. *J Mol Cell Cardiol* 2018;121(205-211)

**ALZET Comments:** Angiotensin II; SC; Mice; 1 week; Dose (1.5 ug/kg/min); Controls received mp w/ vehicle; animal info (10–12 weeks-old, males, females); cardiovascular;.

**Q7129:** N. Divorty, G. Milligan, D. Graham and S. A. Nicklin. The Orphan Receptor GPR35 Contributes to Angiotensin II-Induced Hypertension and Cardiac Dysfunction in Mice. *Am J Hypertens* 2018;31(9):1049-1058

**ALZET Comments:** Angiotensin II; Saline; SC; Mouse; 1002; 2 weeks; Dose (400 ng/kg/min); animal info (adult, male, F2 homozygous C57BL/6 or GPR35 KO); post op. care (Analgesic); cardiovascular;.

**Q6938:** H. Ding, F. Bai, H. Cao, J. Xu, L. Fang, J. Wu, Q. Yuan, Y. Zhou, Q. Sun, W. He, C. Dai, K. Zen, L. Jiang and J. Yang. PDE/cAMP/Epac/C/EBP-beta Signaling Cascade Regulates Mitochondria Biogenesis of Tubular Epithelial Cells in Renal Fibrosis. *Antioxid Redox Signal* 2018;29(7):637-652

**ALZET Comments:** Angiotensin II; SC; Mice; 4 weeks; Dose (1 ug/kg/min); animal info (male CD1 mice); Therapeutic indication (unilateral ureteral obstruction);.

**Q7121:** J. L. J. Coleman, M. A. Mouat, J. Wu, N. Jancovski, J. K. Bassi, A. Y. Chan, D. T. Humphreys, N. Mrad, Z. Y. Yu, T. Ngo, S. Iismaa, C. G. Dos Remedios, M. P. Feneley, A. M. Allen, R. M. Graham and N. J. Smith. Orphan receptor GPR37L1 contributes to the sexual dimorphism of central cardiovascular control. *Biol Sex Differ* 2018;9(1):14

**ALZET Comments:** Angiotensin II; NaCl; SC; Mice; 1007D; 7 days; Dose (2 mg/kg/day); 0.9% NaCl used; Controls received mp w/ vehicle; animal info (10-12 weeks old, ); post op. care (buprenorphine); cardiovascular;.

**Q7119:** S. Clotet-Freixas, M. J. Soler, V. Palau, L. Anguiano, J. Gimeno, A. Konvalinka, J. Pascual and M. Riera. Sex dimorphism in ANGII-mediated crosstalk between ACE2 and ACE in diabetic nephropathy. *Lab Invest* 2018;98(9):1237-1249

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 1004; 28 days; Dose (1.44 ug/day/g); 0.9% sodium chloride used; animal info (10 week old, female and male, C57BL/6); diabetes; .

**Q7113:** Y.-H. Chen. Profound deficits in hippocampal synaptic plasticity after traumatic brain injury and seizure is ameliorated by prophylactic levetiracetam. *Oncotarget* 2018;9(14):11515-11527

**ALZET Comments:** Angiotensin II; PBS; SC; Mice; 2004; 4 weeks; Dose (2.5 ug/kg/min); animal info (8 week-old, male, ApoE<sup>-/-</sup>); dependence; .

**Q7112:** Y. Chen, J. Cao, Q. Zhao, H. Luo, Y. Wang and W. Dai. Silencing MR-1 attenuates atherosclerosis in ApoE<sup>-/-</sup> mice induced by angiotensin II through FAK-Akt-mTOR-NF-kappaB signaling pathway. *Korean J Physiol Pharmacol* 2018;22(2):127-134

**ALZET Comments:** Angiotensin II; PBS; SC; Mice; 2004; 4 weeks; Dose (2.5 ug/kg/min); animal info (8 week-old, male, ApoE<sup>-/-</sup>); dependence; .

**Q7114:** L. Chen, Q. Li, L. Lei and T. Li. Dioscin ameliorates cardiac hypertrophy through inhibition of the MAPK and Akt/GSK3beta/mTOR pathways. *Life Sci* 2018;209(420-429)

**ALZET Comments:** Angiotensin II; PBS; SC; Mice; 1002; 3, 7, 14 days; Dose (1.5 µg/kg/min); Controls received mp w/ vehicle; animal info (Male, ); cardiovascular;.



**Q7105:** L. Cao, Y. Chen, L. Lu, Y. Liu, Y. Wang, J. Fan and Y. Yin. Angiotensin II upregulates fibroblast-myofibroblast transition through Cx43-dependent CaMKII and TGF-beta1 signaling in neonatal rat cardiac fibroblasts. *Acta Biochim Biophys Sin (Shanghai)* 2018;50(9):843-852

**ALZET Comments:** Angiotensin II, Angiotensin (1-7), Autocamtide 2-related inhibitory peptide; Saline; SC; Rat; 2004; 4 weeks; Dose (Ang II- 500 ng/kg/min, Ang II plus Ang-(1-7)- 500 ng/kg/min. Ang I plus AIP- 100 ng/kg/min ); Controls received mp w/ vehicle; animal info (male, Sprague-Dawley, 220 ± 20 g); AIP a specific CaMKII inhibitor; enzyme inhibitor (calmodulin-dependent protein kinase II); cardiovascular;.

**Q5583:** L. Cambier, J. F. Giani, W. Liu, T. Ijichi, A. K. Echavez, J. Valle and E. Marban. Angiotensin II-Induced End-Organ Damage in Mice Is Attenuated by Human Exosomes and by an Exosomal Y RNA Fragment. *Hypertension* 2018;72(2):370-380

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 1004; 28 days; Dose (1.4 mg/kg per day); Controls received mp w/ vehicle; animal info (8 to 10-week-old male C57BL/6J mice);.

**Q6942:** S. Bulley, C. Fernandez-Pena, R. Hasan, M. D. Leo, P. Muralidharan, C. E. Mackay, K. W. Evanson, L. Moreira-Junior, A. Mata-Daboïn, S. K. Burris, Q. Wang, K. P. Kuruvilla and J. H. Jaggar. Arterial smooth muscle cell PKD2 (TRPP1) channels regulate systemic blood pressure. *Elife* 2018;7(**ALZET Comments:** Angiotensin II; Saline; SC; Mice (knockout); Dose (1.5 ng/g/min); Controls received mp w/ vehicle; animal info (Pkd2 smKO and Pkd2fl/fl mice); cardiovascular;.

**Q7099:** R. M. Botnar, J. Brangsch, C. Reimann, C. H. P. Janssen, R. Razavi, B. Hamm and M. R. Makowski. In Vivo Molecular Characterization of Abdominal Aortic Aneurysms Using Fibrin-Specific Magnetic Resonance Imaging. *J Am Heart Assoc* 2018;7(11):

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 2004; 4 weeks; Dose (1 ug/kg/min); Controls received mp w/ vehicle; animal info (8 weeks old, C57BL/6J ApoE-knockout, male); cardiovascular;.

**Q6944:** R. M. Botnar, J. Brangsch, C. Reimann, C. H. P. Janssen, R. Razavi, B. Hamm and M. R. Makowski. In Vivo Molecular Characterization of Abdominal Aortic Aneurysms Using Fibrin-Specific Magnetic Resonance Imaging. *J Am Heart Assoc* 2018;7(11):

**ALZET Comments:** Angiotensin II; Saline; SC; Mice (knockout); 2004; 4 weeks; Dose (1 ug/kg/min); Controls received mp w/ vehicle; animal info (8 week old male C57BL/6J ApoE-knockout mice); cardiovascular;.

**Q7175:** P. M. Becher, S. Hinrichs, N. Fluschnik, J. K. Hennigs, K. Klingel, S. Blankenberg, D. Westermann and D. Lindner. Role of Toll-like receptors and interferon regulatory factors in different experimental heart failure models of diverse etiology: IRF7 as novel cardiovascular stress-inducible factor. *PLoS One* 2018;13(3):e0193844

**ALZET Comments:** Angiotensin II; SC; Mice; 2004; 3 Weeks; Dose (2.4 mg/kg); animal info (6-8 weeks of age); cardiovascular;.

**Q7091:** F. Andreatta, V. Syvannarath, M. Clement, S. Delbosc, K. Guedj, G. Fornasa, J. Khallou-Laschet, M. Morvan, G. Even, E. Procopio, A. T. Gaston, M. Le Borgne, L. Deschamps, A. Nicoletti and G. Caligiuri. Macrophage CD31 Signaling in Dissecting Aortic Aneurysm. *J Am Coll Cardiol* 2018;72(1):45-57

**ALZET Comments:** Angiotensin II; SC; Mice; 2004; 14 days; Controls received mp w/ vehicle; animal info (Twenty-eight week old, male, Apo E<sub>1</sub>/\_ mice); cardiovascular;.

**Q7096:** A. R. Adelsperger, E. H. Phillips, H. S. Ibriga, B. A. Craig, L. A. Green, M. P. Murphy and C. J. Goergen. Development and growth trends in angiotensin II-induced murine dissecting abdominal aortic aneurysms. *Physiol Rep* 2018;6(8):e13668

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 2004; 28 Days; Dose (1000 ng/kg/min); animal info (Male apoE<sub>1</sub>/\_ mice (29.0 +/- 3.5 g, 15.7 +/- 8.0 weeks old); post op. care (Reflex 7 clips used to close the wound and antibiotic ointment (Neosporin) applied for wound healing. Buprenorphine (0.1 mL of 0.03 mg/mL); cardiovascular;.