



## References (2016 – Present) on Atherosclerosis Using ALZET® Osmotic Pumps

**Q12261:** H. X. Zhu, *et al.* Intermedin(1-53) Improves Atherosclerosis by Reducing Local Endothelial Damage via AMPK Signaling Pathway in Obese apoE-Deficient Mice. *Journal of Inflammation Research* 2025;18(6583-6596

**Agents:** Intermedin (1-53), human **Vehicle:** Saline, sterile; **Route:** SC; **Species:** Mice **Strain:** ApoE-/- **Pump:** 2004 **Duration:** 4w; **ALZET Comments:** Dose (300 ng/kg/h); animal info (Twenty-week-old male); cardiovascular; obesity; therapeutic indication

**Q12221:** B. Zhang, *et al.* Aldosterone-Induced Transformation of Vascular Smooth Muscle Cells into Macrophage-like Cells Participates in Inflammatory Vascular Lesions. *International Journal of Molecular Sciences* 2025;26(7):

**Agents:** Aldosterone **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Strain:** SPF Wistar; **Pump:** 2006; **Duration:** 12 weeks; **ALZET Comments:** Dose (600 µg/kg/d); animal info (male 4~5 weeks, 165 ± 15 g); pumps replaced after 6 weeks; long-term study; blood pressure measured via tail-cuff method; systolic blood pressure and diastolic blood pressure were measured every week; cardiovascular; vascular inflammation/atherosclerosis model;

**Q11809:** S. Oh, *et al.* The Effects of Nicotine on Re-endothelialization, Inflammation, and Neoatherosclerosis After Drug-Eluting Stent Implantation in a Porcine Model. *Korean Circulation Journal* 2025;55(1):50-64

**Agents:** Nicotine **Vehicle:** Not Stated; **Route:** SC; **Species:** Pig; **Strain:** Yorkshire x Landrace; **Pump:** 2ML4; **Duration:** 8 weeks; **ALZET Comments:** functionality of mp verified by blood nicotine concentration; pumps replaced after 4 weeks; dependence;

**Q11981:** L. Yang, *et al.* SIRT6-mediated vascular smooth muscle cells senescence participates in the pathogenesis of abdominal aortic aneurysm. *Atherosclerosis* 2024;392(117483

**Agents:** AngII **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** ApoE-/-, C57BL6/J; **Pump:** 2004; **Duration:** 28 days; **ALZET Comments:** Dose (1.44 mg/kg/day); animal info (male; 8-10 weeks old); peptides; cardiovascular;

**Q11909:** P. Shridas, *et al.* Antisense oligonucleotide targeting hepatic Serum Amyloid A limits the progression of angiotensin II-induced abdominal aortic aneurysm formation. *Atherosclerosis* 2024;391(117492

**Agents:** Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 2004; **Duration:** 12 weeks; **ALZET Comments:** Dose (1000 ng/kg/min); animal info (8 weeks old); pumps replaced every 4 weeks; blood pressure measured via tail cuff method; peptides; cardiovascular (abdominal aortic aneurysm);

**Q12293:** Y. N. Lee, *et al.* Fluorescent gold nanoclusters possess multiple actions against atherosclerosis. *Redox Biology* 2024;78(103427

**Agents:** Nanodusters, fluorescent gold **Vehicle:** PBS; **Route:** IP; **Species:** Mice; **Strain:** ApoE-deficient, C57BL/6J background; **Pump:** 2004; **Duration:** 8 weeks;

**ALZET Comments:** Dose (20 µM); controls received mp w/ vehicle; animal info (male, eight week-old, pentobarbital IP anesthesia); pumps replaced after 4 weeks; comparison of oral vs mp; cardiovascular; atherosclerosis; "...suggesting a stable, continuous delivery of FANC into the animals by the osmotic minipumps rather than a discontinuous, intermittent delivery by oral intake of FANC" pg. 11;

**Q12049:** Z. He, *et al.* Resolvin D1 delivery to lesional macrophages using antioxidative black phosphorus nanosheets for atherosclerosis treatment. *Nanotechnology* 2024;19(9):1386-1398

**Agents:** Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** ApoE-/-, C5BL/6J background; **Pump:** 2004; **Duration:** 28 days;

**ALZET Comments:** Dose (1000 ng/kg/min); controls received mp w/ vehicle; animal info (14 weeks old); blood pressure measured via tail-cuff method; peptides; cardiovascular;

**Q11699:** G. E. Crespo-Avilan, *et al.* Metabolic reprogramming of immune cells by mitochondrial division inhibitor-1 to prevent post-vascular injury neointimal hyperplasia. *Atherosclerosis* 2024;390(117450

**Agents:** Mitochondrial division inhibitor-1 **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** Apo -/-; **Pump:** Not Stated; **Duration:** Not Stated;

**ALZET Comments:** Dose (1.2 mg/kg/day); controls received mp w/ vehicle; animal info (male; 10-12 weeks old, SC buprenorphine analgesia); cardiovascular; therapeutic indication (Hyperplasia, neointimal);



**Q12022:** Y. R. Zhang, *et al.* Intermedin alleviates diabetic vascular calcification by inhibiting GLUT1 through activation of the cAMP/PKA signaling pathway. *Atherosclerosis* 2023;385(117342)

**Agents:** Intermedin **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Strain:** Sprague-Dawley; **Pump:** Not Stated; **Duration:** 4 w; **ALZET Comments:** Dose: (100 ng/kg/h); animal info: (male 8 weeks); functionality of mp verified by plasma levels; peptides; diabetes; therapeutic indication: diabetic vascular calcification;

**Q11032:** Q. Yu, *et al.* Urotensin II Enhances Advanced Aortic Atherosclerosis Formation and Delays Plaque Regression in Hyperlipidemic Rabbits. *International Journal of Molecular Sciences* 2023;24(4):

**Agents:** Urotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Rabbit; **Strain:** Not Stated; **Pump:** 2006; **Duration:** 6 weeks; 12 weeks; 24 weeks;

**ALZET Comments:** Dose: 5.4 ug/kg/h; Controls received mp w/ vehicle; animal info: Male/female rabbits, six weeks old; pumps replaced every 6 weeks; Blood pressure/heart rate measured via medial auricular artery; cardiovascular; atherosclerosis

**Q11030:** D. Ye, *et al.* Antisense oligonucleotides targeting hepatic angiotensinogen reduce atherosclerosis and liver steatosis in hypercholesterolemic mice. *Global Translational Medicine* 2023;2(1):

**Agents:** Losartan **Vehicle:** Water; **Route:** SC; **Species:** Mice; **Strain:** LDL receptor -/-; **Pump:** 2006; **Duration:** 12 weeks;

**ALZET Comments:** Dose: Losartan 15 mg/kg/day; Controls received mp w/ vehicle; animal info: Male ~8 weeks old; pumps replaced after 6 weeks; Blood pressure measured via: Tail cuff; Blood pressure measurement results (see pg. 3) fig. 1; cardiovascular (liver steatosis, atherosclerosis)

**Q11018:** Y. Wang, *et al.* Moxonidine Increases Uptake of Oxidised Low-Density Lipoprotein in Cultured Vascular Smooth Muscle Cells and Inhibits Atherosclerosis in Apolipoprotein E-Deficient Mice. *International Journal of Molecular Sciences* 2023;24(4):

**Agents:** Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** ApoE-/-; **Pump:** 2004; **Duration:** 28 days;

**ALZET Comments:** Dose: (1 ug/kg body weight/min); animal info: Male 3 months old; cardiovascular; atherosclerosis

**Q10989:** A. Sakamoto, *et al.* CD163+ macrophages restrain vascular calcification, promoting the development of high-risk plaque. *JCI Insight* 2023;8(5):

**Agents:** IKK-NBD peptide, control; NBD peptide, NFκB inhibitor **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** ApoE-/-; **Pump:** 2006; **Duration:** 18 weeks;

**ALZET Comments:** Dose (both peptides 100 μg/kg/day); animal info: 8 weeks old; pumps replaced every 6 weeks, total of 3 surgeries per mouse were required; peptides; cardiovascular; vascular calcification (atherosclerotic coronary artery)

**Q11442:** P. Puylaert, *et al.* Effect of erythrophagocytosis-induced ferroptosis during angiogenesis in atherosclerotic plaques. *Angiogenesis* 2023;26(4):505-522

**Agents:** UAMC-3203 **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 1004; **Duration:** 8 weeks;

**ALZET Comments:** Dose (0, 5, 12.35 mg/kg/day); controls received mp w/ vehicle; animal info (3 months); functionality of mp verified by plasma levels; pumps replaced after 4 weeks; stability validated with low and high doses; cardiovascular (atherosclerosis);

**Q11438:** F. G. Porto, *et al.* Evidence for a protective role of Protein Disulfide Isomerase-A1 against aortic dissection. *Atherosclerosis* 2023;382(117283)

**Agents:** Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** Not Stated; **Duration:** 28 days;

**ALZET Comments:** Dose (1000 ng/kg/min); animal info (8 weeks old); peptides; cardiovascular;

**Q11400:** A. Mallen, *et al.* Sex Differences in Glomerular Lesions, in Atherosclerosis Progression, and in the Response to Angiotensin-Converting Enzyme Inhibitors in the ApoE(-/-) Mice Model. *International Journal of Molecular Sciences* 2023;24(17):

**Agents:** Angiotensin II **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** 1002; **Duration:** 2 weeks;

**ALZET Comments:** Dose: 6 ug/kg/min; controls received mp w/ vehicle; animal info (male and female; 8 weeks old); blood pressure measured via tail cuff method; peptides; cardiovascular; nephrology;



**Q11136:** W. Lian, *et al.* CXCL12 Inhibition Prevents Telomere Shortening and Repression of Telomerase Activity in Both Early and Late Post-menopausal Atherosclerosis via ABCA1 Upregulation. *Proceedings of the Bulgarian Academy of Sciences* 2023;76(3):429-439

**Agents:** POL5551 **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** 1007D; **Duration:** 2 weeks;  
**ALZET Comments:** Dose (30 mg/kg/day); Controls received mp w/ vehicle; animal info (Female; 8-9 weeks old); receptor antagonist (CXCR4); cardiovascular;

**Q11731:** W. He, *et al.* Comparison and Evaluation of Two Combination Modes of Angiotensin for Establishing Murine Aortic Dissection Models. *Journal of Cardiovascular Translational Research* 2023;16(6):1392-1407

**Agents:** Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** apoE<sup>-/-</sup>; C57BL/6; **Pump:** 1003D; 2004; **Duration:** 72 hours; 4 weeks;

**ALZET Comments:** Dose (1000 ng/kg/min); controls received mp w/ vehicle; animal info (16-week-old); blood pressure measured via tail cuff; Measurements (pg.1401) Fig. 4C; cardiovascular; "In this study, we established a novel AD murine model by using high-fat diet (HFD) combined with chronic AngII intervention, taking into account such things as age, vascular atherosclerosis, and hypertension" pg. 1394;

**Q11236:** J. An, *et al.* Nicotine exacerbates atherosclerosis and plaque instability via NLRP3 inflammasome activation in vascular smooth muscle cells. *Theranostics* 2023;13(9):2825-2842

**Agents:** Nicotine **Vehicle:** Saline; **Route:** Not Stated; **Species:** Mice; **Strain:** Apoe<sup>-/-</sup>; **Pump:** 2006; **Duration:** 6 weeks;  
**ALZET Comments:** Dose (5 mg/kg/day); 0.9% NaCl used; Controls received mp w/ vehicle; animal info (Male; 8 weeks old; Fed Western diet of 21% milk fat and 0.15% cholesterol); toxicology; "...nicotine infusion for 6 weeks significantly increased the plaque size and plaque area percentage of internal elastic lamina area in BA compared with that of vehicle-treated mice. These data suggest that nicotine, the core component in cigarette smoking and electronic cigarette smoking, markedly aggravates atherogenesis in Apoe<sup>-/-</sup> mice." p. 4

**R0404:** H. Williams, *et al.* Use of Mouse Carotid Artery Ligation Model of Intimal Thickening to Probe Vascular Smooth Muscle Cell Remodeling and Function in Atherosclerosis. *Methods in Molecular Biology* 2022;2419(537-560

**Agents:** Uridine, bromodeoxy- **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** Not Stated; **Duration:** 1 day; 6 weeks;

**ALZET Comments:** Dose: (0.11 )animal info: male and female adult 2 mos old; post op. care: 1.5 µg of buprenorphine hydrochloride (Vetergesic); Bromodeoxyuridine aka (BrdU)

**Q11697:** T. T. Wei, *et al.* Cannabinoid receptor 1 antagonist genistein attenuates marijuana-induced vascular inflammation. *Cell* 2022;185(10):1676-1693 e23

**Agents:** cannabiniol, 9-tetrahydro- **Vehicle:** PMC9400797; **Route:** Saline; ethanol; cremophor; **Species:** Mice; **Strain:** Ldlr<sup>-/-</sup>; **Pump:** 2006; **Duration:** 12 weeks;

**ALZET Comments:** Dose: (1 mg/kg/day); 90% saline; 5% ethanol; 5% cremophor used; Controls received mp w/ vehicle; animal info: 9–12 weeks old; behavioral testing (open field activity chamber; hot plate test; bar test); Blood pressure measured via: CODA Non-Invasive Blood Pressure System; cardiovascular; atherosclerosis

**Q11623:** H. A. Uchida, *et al.* Edaravone Attenuated Angiotensin II-Induced Atherosclerosis and Abdominal Aortic Aneurysms in Apolipoprotein E-Deficient Mice. *Biomolecules* 2022;12(8):

**Agents:** Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** Apo<sup>-/-</sup>; **Pump:** 2004; **Duration:** 28 days;

**ALZET Comments:** Dose (1000 ng/kg/min); Controls received mp w/ vehicle; animal info (Male; 8-12 weeks old); Blood pressure measured via tail-cuff method; peptides; cardiovascular;

**Q10707:** P. F. Tsui, *et al.* An Octimibate Derivative, Oxa17, Enhances Cholesterol Efflux and Exerts Anti-Inflammatory and Atheroprotective Effects in Experimental Atherosclerosis. *Biochemical Pharmacology* 2021;188(114581

**Agents:** Oxa17 **Vehicle:** DMSO; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; Oxa17; **Pump:** 2006; **Duration:** 8 weeks;

**ALZET Comments:** Controls received mp w/ vehicle; animal info: Eight-week-old male mice, is an octimibate derivative; Therapeutic indication (atherosclerosis)



- Q10333:** S. K. Sinha, *et al.* Local M-CSF (Macrophage Colony-Stimulating Factor) Expression Regulates Macrophage Proliferation and Apoptosis in Atherosclerosis. *Arteriosclerosis Thrombosis and Vascular Biology* 2021;41(1):220-233  
**Agents:** Uridine, bromodeoxy- **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** Wild-type; **Pump:** 1002; **Duration:** 2 w;  
**ALZET Comments:** Dose: (50 µg per day); animal info: 8- to 10-week-old female and male; bromodeoxyuridine aka (BrdU); cardiovascular
- Q10051:** N. Otaka, *et al.* Vasohibin-2 Aggravates Development of Ascending Aortic Aneurysms but not Abdominal Aortic Aneurysms nor Atherosclerosis in ApoE-Deficient Mice. *American Journal of Hypertension* 2021;34(5):467-475  
**Agents:** Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** ApoE-/-; **Pump:** 2004; **Duration:** 3 weeks;  
**ALZET Comments:** Dose (1000 ng/kg/min); Controls received mp w/ vehicle; animal info: male 9 to 14 weeks old; Blood pressure measured via tail cuff system; 98 mmHg - 139 mmHg; cardiovascular;
- Q10221:** M. Kukida, *et al.* Effects of Endogenous Angiotensin II on Abdominal Aortic Aneurysms and Atherosclerosis in Angiotensin II-Infused Mice. *Journal of American Heart Association* 2021;10(9):e020467  
**Agents:** Angiotensin II **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 2001; **Duration:** 7 d;  
**ALZET Comments:** Dose: (1000 ng/kg per minute); Animal info: male mice (8-to10-weeks-old); cardiovascular;
- Q9301:** S. Katsuki, *et al.* Nanoparticle-Mediated Delivery of Pitavastatin to Monocytes/Macrophages Inhibits Angiotensin II-Induced Abdominal Aortic Aneurysm Formation in Apoe(/) Mice. *Journal of Atherosclerosis Thrombosis* 2021;  
**Agents:** Angiotensin II **Vehicle:** PBS; **Route:** IP; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 2004; **Duration:** 28 days;  
**ALZET Comments:** Dose (1320 ng/kg/min); Controls received mp w/ vehicle; animal info (male 16-18 weeks old); Blood pressure measured via tail-cuff method; cardiovascular;
- Q9833:** H. Zhao, *et al.* Chronic Staphylococcus aureus Superantigen Toxic Shock Syndrome Toxin-1 Exposure Accelerates the Progression of Atherosclerosis in Rabbits. *Acta Cardiologica Sinica* 2020;  
**Agents:** TSST-1 **Vehicle:** PBS; **Route:** SC; **Species:** Rabbit **Strain:** New Zealand White rabbits **Pump:** Not Stated **Duration:** 42d;  
**ALZET Comments:** Dose (1.3 mg/mL); Controls received mp w/ vehicle; animal info (male 8 months old); cardiovascular;
- Q10854:** W. Yu, *et al.* Smooth Muscle NADPH Oxidase 4 promotes Angiotensin II-Induced Aortic Aneurysm and Atherosclerosis by Regulating Osteopontin. *BBA- Molecular Basis of Disease* 2020;1866(12):165912  
**Agents:** Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6 LDLR -/-; FVB/N ApoE-/-; **Pump:** 2004; **Duration:** 4 weeks;  
**ALZET Comments:** Dose: (1.44 mg/kg/day); Controls received mp w/ vehicle; animal info: Male mice at 10 weeks of age; Blood pressure measured via: tail-cuff plethysmography (NTg 110.30 ± 1.80 mmHg vs. SDN 110.30 ± 1.80 mmHg, n = 6-7) or after Ang II infusion (NTg 167.60 ± 3.60 mmHg vs. SDN 166.70 ± 4.40 mmHg, n = 9-11); cardiovascular; (Aortic aneurysm)
- Q9458:** G. Shen, *et al.* Role of ADAM9 and miR-126 in the development of abdominal aortic aneurysm. *Atherosclerosis* 2020;297(47-54)  
**Agents:** Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** ApoE-/-; **Pump:** Not Stated; **Duration:** 28 days;  
**ALZET Comments:** Dose (1 µg/min/kg); Controls received mp w/ vehicle; animal info (10-week-old male); cardiovascular
- Q10052:** K. Ozawa, *et al.* Proteolysis of Von Willebrand Factor Influences Inflammatory Endothelial Activation and Vascular Compliance in Atherosclerosis. *Basic to Translational Science* 2020;5(10):1017-1028  
**Agents:** ADAMTS13 **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** LDL-R-/-; **Pump:** 1004; **Duration:** 14 days;  
**ALZET Comments:** Dose (2 µg/day); animal info (mice, 20 to 30 weeks old); Blood pressure measured via tail-cuff plethysmograph; 45 mmHg - 55 mmHg; cardiovascular;
- Q8620:** C. H. Lai, *et al.* Targeting vascular smooth muscle cell dysfunction with xanthine derivative KMUP-3 inhibits abdominal aortic aneurysm in mice. *Atherosclerosis* 2020;297(16-24)  
**Agents:** Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** apolipoprotein E-deficient; **Pump:** 2004; **Duration:** 14 days; 28 days;  
**ALZET Comments:** Dose (1000 ng/kg/minute); 0.9% NaCl used; Controls received mp w/ vehicle; animal info (24-week-old male); cardiovascular



**Q8611:** M. Krishnan, *et al.* beta-hydroxybutyrate Impedes the Progression of Alzheimer's Disease and Atherosclerosis in ApoE-Deficient Mice. *Nutrients* 2020;12(2):

**Agents:** Butyrate, B-hydroxy- **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Strain:** ApoE<sup>-/-</sup>; C57BL/6J; **Pump:** 1004; **Duration:** 8 w; **ALZET Comments:** Dose (1.5 mmol/kg/day); Controls received mp w/ vehicle; animal info (Six-week-old male mice); pumps replaced every 4 weeks; half-life (p.10); Beta-hydroxybutyrate aka (B-OHB); neurodegenerative (Alzheimer's disease)

**Q8506:** B. Gomes de Almeida Schirmer, *et al.* The NO-donor MPC-1011 stimulates angiogenesis and arteriogenesis and improves hindlimb ischemia via a cGMP-dependent pathway involving VEGF and SDF-1alpha. *Atherosclerosis* 2020;304(30-38)

**Agents:** MPC-1011; Cilostazol **Vehicle:** Not stated; **Route:** SC; **Species:** Rat; **Strain:** Sprague-Dawley; **Pump:** 2004; **Duration:** Not stated;

**ALZET Comments:** Dose (3.6 mg/day MPC-1011; 100 mg/kg/bi-daily Cilostazol); animal info (Four-week-old male); MPC-1011 aka novel NO-donor; cardiovascular;

**Q9784:** A. M. Flores, *et al.* Pro-efferocytic nanoparticles are specifically taken up by lesional macrophages and prevent atherosclerosis. *Nature Nanotechnology* 2020;15(2):154-161

**Agents:** Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** ApoE<sup>-/-</sup>; **Pump:** 2004; **Duration:** 4 weeks;

**ALZET Comments:** Dose (1000 ng/kg/min); animal info (8-10 weeks old,); cardiovascular;

**Q9779:** D. D. Chin, *et al.* Collagenase-Cleavable Peptide Amphiphile Micelles as a Novel Theranostic Strategy in Atherosclerosis. *Advanced Therapeutics* 2020;3(3):

**Agents:** Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** ApoE<sup>-/-</sup>; **Pump:** 2004; **Duration:** 28 days;

**ALZET Comments:** Dose (1.9 mg/kg/day); Controls received mp w/ vehicle; animal info ( 27 weeks old); cardiovascular;

**Q9081:** H. Takahashi, *et al.* GLP-1 Receptor Agonist Exendin-4 Attenuates NR4A Orphan Nuclear Receptor NOR1 Expression in Vascular Smooth Muscle Cells. *Journal of Atherosclerosis Thrombosis* 2019;26(2):183-197

**Agents:** Exendin-4 **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** 129X1/SvJ; **Pump:** 1004; **Duration:** 4 weeks;

**ALZET Comments:** Dose (300 pmol/kg/day or 24 nmol/kg/day); Controls received mp w/ vehicle; animal info (7 weeks old, Male, ); Exendin-4 aka Ex-4; diabetes;

**Q8282:** C. S. McAlpine, *et al.* Sleep modulates haematopoiesis and protects against atherosclerosis. *Nature* 2019;566(7744):383-387

**Agents:** Hypocretin-1 **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** Not stated; **Duration:** 8 weeks;

**ALZET Comments:** Dose (50 nmol/h/kg); Controls received mp w/ vehicle; pumps replaced every 4 weeks; Hypocretin-1 aka HCRT-1; cardiovascular;

**Q7616:** A. Kurdi, *et al.* Everolimus depletes plaque macrophages, abolishes intraplaque neovascularization and improves survival in mice with advanced atherosclerosis. *Vascul Pharmacol* 2019;113(70-76)

**Agents:** Everolimus **Vehicle:** DMSO; Propylene glycol; Ethanol, buffered; **Route:** SC; **Species:** Mice; **Strain:**

ApoE<sup>(-/-)</sup>Fbn1(C1039G<sup>+/-</sup>); **Pump:** 1004; **Duration:** 12 weeks;

**ALZET Comments:** Dose (1.5 mg/kg/day); 50% DMSO, 40% propylene glycol, 10% absolute ethanol supplemented with 0.4 µl/ml Tween 20 used; animal info (6 weeks, female,); pumps replaced every 4 weeks; long-term study; cardiovascular; "Four out of 12 control animals died abruptly during the experiment, which is a phenomenon that started at 21 weeks of WD (corresponding with 9 weeks of treatment with vehicle solution)." p.72; Therapeutic indication (stabilizes atherosclerotic plaques and reduce atherosclerosis-driven complications such as cardiac hypertrophy and fibrosis, brain hypoxia and sudden death);

**Q8220:** D. V. Keulen, *et al.* Oncostatin M reduces atherosclerosis development in APOE\*3Leiden.CETP mice and is associated with increased survival probability in humans. *PLoS One* 2019;14(8):e0221477

**Agents:** Murine Oncostatin M **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Strain:** APOE3Leiden.CETP transgenic; **Pump:** 1004; **Duration:** 16 weeks;

**ALZET Comments:** Dose (10 or 30 µg/kg/day); Controls received mp w/ vehicle; animal info (female mice (10–15 weeks of age)); pumps replaced every 5.5 weeks; long-term study; Murine Oncostatin M aka Murine OSM; cardiovascular;



**Q8037:** P. L. Hsu, *et al.* Shear-Induced CCN1 Promotes Atheroprone Endothelial Phenotypes and Atherosclerosis. *Circulation* 2019;139(25):2877-2891

**Agents:** T1 peptide **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** Apoe -/-; **Pump:** 2002; **Duration:** 14 days;

**ALZET Comments:** Dose (1 mg/kg/day); Controls received mp w/ vehicle; animal info (Male, 2-4 months old); T1 aka peptide antagonist selectively targeting CCN1- $\alpha 6\beta$ ; peptides; cardiovascular;

**Q7287:** D. Fukuda, *et al.* Toll-Like Receptor 9 Plays a Pivotal Role in Angiotensin II-Induced Atherosclerosis. *J Am Heart Assoc* 2019;8(7):e010860

**Agents:** Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** Apoe -/- mice; Tlr9 -/-; **Pump:** Not Stated;

**Duration:** 4 weeks;

**ALZET Comments:** Dose (1000 ng/kg/min); animal info ( mice, 6 weeks); cardiovascular;

**Q8990:** M. Zhai, *et al.* Ursolic acid prevents angiotensin II-induced abdominal aortic aneurysm in apolipoprotein E-knockout mice. *Atherosclerosis* 2018;271(128-135

**Agents:** Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** ApoE(-/-); **Pump:** 2004; **Duration:** 28 days;

**ALZET Comments:** Dose (1000 ng/kg/min); Controls received mp w/ vehicle; animal info (8 weeks, male, ); cardiovascular; mp used to induce abdominal aortic aneurysms in mice;

**Q8973:** H. Yu, *et al.* FOXO3a (Forkhead Transcription Factor O Subfamily Member 3a) Links Vascular Smooth Muscle Cell Apoptosis, Matrix Breakdown, Atherosclerosis, and Vascular Remodeling Through a Novel Pathway Involving MMP13 (Matrix Metalloproteinase 13). *Arteriosclerosis, Thrombosis, and Vascular Biology* 2018;38(3):555-565

**Agents:** WAY-170523 **Vehicle:** DMSO, PEG 400 buffered; **Route:** SC; **Species:** Mice; **Strain:** ApoE(-/-);

SM22alphaFOXO3aA3ER; **Pump:** 1007D; **Duration:** 3, 7 days;

**ALZET Comments:** Dose (7.5mg/kg/day); 50% DMSO with PEG400 used; Controls received mp w/ vehicle; animal info (5-6 months, male, ); WAY170523 is a MMP13-selective inhibitor; enzyme inhibitor (matrix metalloproteinase 13); cardiovascular; results section states mp implanted days 0-7 while materials and methods states mp implanted days 7-10;

**Q8978:** G. Yang, *et al.* Angiotensin-(1-7)-induced Mas receptor activation attenuates atherosclerosis through a nitric oxide-dependent mechanism in apolipoproteinE-KO mice. *Molecular and Cellular Mechanisms of Disease* 2018;

**Agents:** Angiotensin (1-7) **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6, apoE-KO; apoE/Mas-KO; **Pump:** 1004;

**Duration:** 6, 8 weeks;

**ALZET Comments:** Dose (82  $\mu$ g/kg/h); Controls received mp w/ vehicle; animal info (6 or 8 weeks,); pumps replaced every 3 weeks; cardiovascular; Therapeutic indication (Ang-(1-7) attenuates the development of atherosclerosis through an NO-dependent mechanism);

**Q7507:** E. J. White, *et al.* Sialidase down-regulation reduces non-HDL cholesterol, inhibits leukocyte transmigration, and attenuates atherosclerosis in ApoE knockout mice. *J Biol Chem* 2018;293(38):14689-14706

**Agents:** DANA (sialidase inhibitor) **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** Apoe-/-; **Pump:** 2004; **Duration:** 6 weeks;

**ALZET Comments:** Dose (0.06  $\mu$ g/h); Controls received mp w/ vehicle; animal info (8 months, male, ); enzyme inhibitor (sialidase); cardiovascular;

**Q7934:** A. E. Vozenilek, *et al.* Absence of Nicotinamide Nucleotide Transhydrogenase in C57BL/6J Mice Exacerbates Experimental Atherosclerosis. *Journal of Vascular Research* 2018;55(2):98-110

**Agents:** MitoTEMPO **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6N; C57BL/6J; **Pump:** 1004; **Duration:** 4 weeks;

**ALZET Comments:** Dose (0.8 mg/kg/day); Controls received mp w/ vehicle; animal info (8-9 weeks, male, ); MitoTEMPO aka 2-(2,2,6,6-Tetramethylpiperidin-1-oxyl-4-ylamino)-2-oxoethyl)triphenylphosphonium chloride is a MnSOD mimetic; cardiovascular;

**Q7880:** R. Umebayashi, *et al.* Cilostazol Attenuates Angiotensin II-Induced Abdominal Aortic Aneurysms but Not Atherosclerosis in Apolipoprotein E-Deficient Mice. *Arteriosclerosis, Thrombosis, and Vascular Biology* 2018;38(4):903-912

**Agents:** Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** ApoE(-/-); **Pump:** 2004; **Duration:** 28 days;

**ALZET Comments:** Dose (1000 ng/kg/min); Controls received mp w/ vehicle; animal info (8-12 weeks, male; cardiovascular;



**Q7308:** Y. Takahara, *et al.* Suppression of Abdominal Aortic Aneurysm Formation in Mice by Tenueligliptin, a Dipeptidyl Peptidase-4 Inhibitor. *Journal of Atherosclerosis and Thrombosis* 2018;25(8):698-708

**Agents:** Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** ApoEKO; **Pump:** Not Stated; **Duration:** 4 weeks; **ALZET Comments:** animal info (12 week old, male); cardiovascular;

**Q6896:** P. P. Sfyri, *et al.* Attenuation of oxidative stress-induced lesions in skeletal muscle in a mouse model of obesity-independent hyperlipidaemia and atherosclerosis through the inhibition of Nox2 activity. *Free Radic Biol Med* 2018;129(504-519

**Agents:** Nox2ds-tat; Nox2ds-tat scrambled **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice (knockout); **Strain:** ApoE-/-; **Pump:** 1004; **Duration:** 4 weeks;

**ALZET Comments:** Dose (10 mg/kg/day); animal info (8 week);

**Q7298:** K. Sato, *et al.* Adropin Contributes to Anti-Atherosclerosis by Suppressing Monocyte-Endothelial Cell Adhesion and Smooth Muscle Cell Proliferation. *International Journal of Molecular Sciences* 2018;19(5):

**Agents:** Adropin **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** Apoe-/-; **Pump:** 1002; **Duration:** 4 weeks;

**ALZET Comments:** Dose (0, 5, and 10 µg/kg/h); Controls received mp w/ vehicle; animal info (male, 17 weeks); pumps replaced every 2 weeks; cardiovascular; Adropin is a peptide hormone expressed in liver and brain

**Q7734:** J. Phie, *et al.* A diet enriched with tree nuts reduces severity of atherosclerosis but not abdominal aneurysm in angiotensin II-infused apolipoprotein E deficient mice. *Atherosclerosis* 2018;277(28-33

**Agents:** Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** Apolipoprotein E deficient; **Pump:** 1004; **Duration:** 28 days;

**ALZET Comments:** Dose (1.44 mg/kg/day); animal info (10–12 weeks old, Male mice); cardiovascular;

**Q7059:** J. Patel, *et al.* Effect of irradiation and bone marrow transplantation on angiotensin II-induced aortic inflammation in ApoE knockout mice. *Atherosclerosis* 2018;276(74-82

**Agents:** Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice (knockout); **Strain:** ApoE -/-; **Pump:** Not Stated; **Duration:** 14 days;

**ALZET Comments:** Dose (0.8, 1.5, or 3 mg/kg/day); animal info ( male mice); cardiovascular;

**Q7112:** Y. Chen, *et al.* Silencing MR-1 attenuates atherosclerosis in ApoE(-/-) mice induced by angiotensin II through FAK-Akt-mTOR-NF-kappaB signaling pathway. *Korean J Physiol Pharmacol* 2018;22(2):127-134

**Agents:** Angiotensin II **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Strain:** ApoE-/-; **Pump:** 2004; **Duration:** 4 weeks;

**ALZET Comments:** Dose (2.5 ug/kg/min); animal info (8 week-old, male, ); dependence;

**Q10085:** T. Atkinson, *et al.* Assessment of Novel Antioxidant Therapy in Atherosclerosis by Contrast Ultrasound Molecular Imaging. *Journal of the American Society of Echocardiography* 2018;31(11):1252-1259 e1

**Agents:** EUK-207 **Vehicle:** Mannitol; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** 1004; **Duration:** 8 weeks; 28 weeks;

**ALZET Comments:** Dose (9 mg/ml); 5% Mannitol used; Controls received mp w/ vehicle; pumps replaced every 4 weeks; long-term study 40 weeks; cardiovascular; EUK-207 acts to reduce endothelial P-selectin expression and to suppress platelet-endothelial interactions by inhibiting endothelial-associated VWF. The beneficial anti-inflammatory and antiplatelet endothelial effects of EUK-207 occurred with even short duration of therapy, yet meaningful effects on reducing plaque size and content were found only with long-term therapy, indicating a slow cumulative effect of antioxidant therapy.; Therapeutic indication (suppresses high-risk atherosclerotic features);

**Q5936:** F. Zhang, *et al.* Angiotensin-(1-7) regulates angiotensin II-induced matrix metalloproteinase-8 in vascular smooth muscle cells. *Atherosclerosis* 2017;261(90-98

**Agents:** Angiotensin (1-7); angiotensin II; A779 **Vehicle:** saline; **Route:** sc; **Species:** mice; **Strain:** ApoE -/-; **Pump:** Not Stated; **Duration:** 4 weeks;

**ALZET Comments:** animal info (8 weeks old); cardiovascular; antihypertensive; peptides; Dose (Ang 1-7 400 ng/kg/min; Ang II 1000 ng/kg/min; A779 400 ng/kg/min)



**Q5904:** A. Vinue, *et al.* The GLP-1 analogue lixisenatide decreases atherosclerosis in insulin-resistant mice by modulating macrophage phenotype. *Diabetologia* 2017;60(9):1801-1812

**Agents:** Lixisenatide; liraglutide **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** 2004; **Duration:** 1m; **ALZET Comments:** Controls received mp w/ vehicle; Controls received mp w/ vehicle; cardiovascular; immunology; peptides; diabetes; Bp measured using tail cuff; Dose (liraglutide 400 ug/kg/day; lixisenatide 10 ug/kg/day);

**Q6223:** M. Toda, *et al.* Low dose of alcohol attenuates pro-atherosclerotic activity of thrombin. *Atherosclerosis* 2017;265(215-224

**Agents:** Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** ApoE deficient; **Pump:** 2004; **Duration:** 28 days; **ALZET Comments:** Dose (1.5 mg/kg/day); Controls received mp w/ vehicle; animal info (mice);

**Q6183:** M. Sudo, *et al.* Inhibition of plaque progression and promotion of plaque stability by glucagon-like peptide-1 receptor agonist: Serial in vivo findings from iMap-IVUS in Watanabe heritable hyperlipidemic rabbits. *Atherosclerosis* 2017;265(283-291

**Agents:** Lixisenatide **Vehicle:** Saline; **Route:** SC; **Species:** Rabbit; **Strain:** Watanabe heritable hyperlipidemic; **Pump:** 2ML4; **Duration:** 12 weeks;

**ALZET Comments:** Dose (30 nmoL/kg/day); Controls received mp w/ vehicle; animal info; pumps replaced every 4 weeks; long-term study (12 weeks); Lixisenatide is a GLP-1 receptor agonist;

**Q5971:** K. Sato, *et al.* Potent Vasoconstrictor Kisspeptin-10 Induces Atherosclerotic Plaque Progression and Instability: Reversal by its Receptor GPR54 Antagonist. *J Am Heart Assoc* 2017;6(4):

**Agents:** KP-10; P234 **Vehicle:** Saline; **Route:** Not Stated; **Species:** Mice (knockout); **Strain:** hyperlipidemic; **Pump:** 1002; **Duration:** 4 weeks;

**ALZET Comments:** Controls received mp w/ vehicle; animal info (13 weeks); Therapeutic indication (Atherosclerosis); Dose (5 12.5 ug/kg/hr – KP; 50 ug/kg/hr – P234)

**Q6288:** C. H. Lai, *et al.* Recombinant adeno-associated virus vector carrying the thrombomodulin lectin-like domain for the treatment of abdominal aortic aneurysm. *Atherosclerosis* 2017;262(62-70

**Agents:** AngII **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice (knockout); **Strain:** ApoE<sub>-/-</sub>; **Pump:** 2004; **Duration:** Not Stated; **ALZET Comments:** Dose (1000 ng/kg/min); animal info (6-month-old male mice); cardiovascular; Therapeutic indication (abdominal aortic aneurysm);

**Q6445:** S. M. Krishna, *et al.* Wnt Signaling Pathway Inhibitor Sclerostin Inhibits Angiotensin II-Induced Aortic Aneurysm and Atherosclerosis. *Arteriosclerosis, Thrombosis, and Vascular Biology* 2017;37(3):553-566

**Agents:** Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice (knockout); **Strain:** apolipoprotein E null (ApoE<sup>-/-</sup>); **Pump:** 1004; **Duration:** 28 days;

**ALZET Comments:** Dose (1000ng/kg/min); Controls received mp w/ vehicle; animal info (Male) mice (C57BL/6J background));

**Q6308:** T. Jojima, *et al.* Liraglutide, a GLP-1 receptor agonist, inhibits vascular smooth muscle cell proliferation by enhancing AMP-activated protein kinase and cell cycle regulation, and delays atherosclerosis in ApoE deficient mice. *Atherosclerosis* 2017;261(44-51

**Agents:** Liraglutide **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice (knockout); **Strain:** ApoE<sub>-/-</sub>; **Pump:** 1007D; **Duration:** Not Stated;

**ALZET Comments:** Dose (150 or 400 ug/day); animal info (male mice aged 5 weeks);

**Q5788:** K. Di Gregoli, *et al.* MicroRNA-181b Controls Atherosclerosis and Aneurysms Through Regulation of TIMP-3 and Elastin. *Circulation Research* 2017;120(1):49-65

**Agents:** Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** 1007D, 1002, 1004; **Duration:** 7, 14, 28 days;

**ALZET Comments:** animal info (8-10 weeks)post op. care (buprenorphine (0.1mg/kg),immediately after surgery); cardiovascular; Therapeutic indication (AAA, Abdominal aortic aneurysm, atherosclerosis);Dose (500 or 1000 ng/kg/min);



**Q5777:** A. R. Da Silva, *et al.* Alamandine abrogates neutrophil degranulation in atherosclerotic mice. *European Journal of Clinical Investigation* 2017;47(2):117-128

**Agents:** Alamandine **Vehicle:** Saline; **Route:** SC; **Species:** mice (knockout); **Strain:** ApoE knockout; **Pump:** 2004; **Duration:** 4 w; **ALZET Comments:** Controls received mp w/ vehicle; animal info (15 weeks old); Therapeutic indication (Atherosclerosis); Dose (24 ug/kg/hour);

**Q6400:** P. S. Chen, *et al.* Recombinant Thrombomodulin Exerts Anti-autophagic Action in Endothelial Cells and Provides Anti-atherosclerosis Effect in Apolipoprotein E Deficient Mice. *Sci Rep* 2017;7(1):3284

**Agents:** Thrombomodulin, recombinant **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice (knockout); **Strain:** ApoE<sup>-/-</sup> knockout C57BL/6 background; **Pump:** 2004; **Duration:** 4 weeks; **ALZET Comments:** Dose (145 µg/kg/day); animal info (8 week old mice); cardiovascular;

**Q6315:** W. Ai, *et al.* Ghrelin ameliorates atherosclerosis by inhibiting endoplasmic reticulum stress. *Fundam Clin Pharmacol* 2017;31(2):147-154

**Agents:** Ghrelin **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Mice; **Strain:** ApoE<sup>-/-</sup> mice; wild-type C57BL/6J; **Pump:** 2004; **Duration:** 4 weeks; **ALZET Comments:** Dose (10-9 mol/kg/day); animal info (Male mice weighing 28–32 g (age 17 weeks));

**Q5723:** J. S. Zhang, *et al.* Intermedin1-53 Protects Against Myocardial Fibrosis by Inhibiting Endoplasmic Reticulum Stress and Inflammation Induced by Homocysteine in Apolipoprotein E-Deficient Mice. *J Atheroscler Thromb* 2016;23(11):1294-1306

**Agents:** Intermedin (1-53) **Vehicle:** Saline, sterile; **Route:** SC; **Species:** Mice; **Strain:** ApoE<sup>-/-</sup>; **Pump:** 2002; 2004; **Duration:** 6 w; **ALZET Comments:** animal info (male, 8 weeks old, 25g); cardiovascular; Dose (300 ng/kg/h);

**Q5504:** H. Yu, *et al.* Angiotensin II attenuates angiotensin II-induced aortic aneurysm and atherosclerosis in apolipoprotein E-deficient mice. *Sci Rep* 2016;6(35190)

**Agents:** Angiotensin II **Vehicle:** Water, sterile; **Route:** SC; **Species:** Mice; **Strain:** ApoE<sup>-/-</sup>; **Pump:** 1004; **Duration:** 14 days; **ALZET Comments:** animal info (male, 6 months old); cardiovascular; peptides; Dose (1.44 mg/kg/day);

**Q6547:** L. Yang, *et al.* Silencing of hypoxia inducible factor-1alpha gene attenuated angiotensin II-induced abdominal aortic aneurysm in apolipoprotein E-deficient mice. *Atherosclerosis* 2016;252(40-49)

**Agents:** Angiotensin II **Vehicle:** PBS; **Route:** IP; **Species:** Mice; **Strain:** Apolipoprotein E (ApoE<sup>-/-</sup>); **Pump:** 1004; **Duration:** 4 w; **ALZET Comments:** Dose (1000 ng/kg/min); Controls received mp w/ vehicle; animal info deficient mice (C57BL/6J background)); cardiovascular;

**Q5073:** V. Tiyerili, *et al.* Anti-atherosclerotic effects of serelaxin in apolipoprotein E-deficient mice. *Atherosclerosis* 2016;251(430-7)

**Agents:** Serelaxin **Vehicle:** Sodium acetate; **Route:** SC; **Species:** Mice; **Strain:** ApoE<sup>-/-</sup>; **Pump:** 2006; **Duration:** 4 weeks; **ALZET Comments:** Controls received mp w/ vehicle; animal info (female, 6-8 weeks old); functionality of mp verified by plasma levels; functionality of mp verified by plasma levels; peptides; bp measured using tail cuff; Dose (0.05 or 0,1 ug/h);

**Q6176:** G. Raghuraman, *et al.* PKCepsilon mediates resistin-induced NADPH oxidase activation and inflammation leading to smooth muscle cell dysfunction and intimal hyperplasia. *Atherosclerosis* 2016;253(29-37)

**Agents:** Resistin, V1-2, epsilon **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** ApoE<sup>-/-</sup>, C57BL/6 background; **Pump:** 2004; **Duration:** Not Stated; **ALZET Comments:** Dose: resistin (1 µg/day), εV1-2 (3 mg/kg/day); Controls received mp w/ vehicle; animal info (6–8 week old male mice on ); functionality of mp verified by plasma levels; εV1-2 is a PKCε-specific peptide inhibitor; "Analyses of plasma showed 4.5 fold higher resistin levels in mice implanted with resistin pump."

**Q5394:** X. Li, *et al.* Mitochondrial Reactive Oxygen Species Mediate Lysophosphatidylcholine-Induced Endothelial Cell Activation. *Arteriosclerosis, Thrombosis, and Vascular Biology* 2016;36(6):1090-100

**Agents:** MitoTEMPO **Vehicle:** Saline; **Route:** SC; **Species:** Mice (knockout); **Strain:** ApoE<sup>-/-</sup>; **Pump:** Not Stated; **Duration:** 3 w; **ALZET Comments:** Controls received mp w/ vehicle; animal info (mice, 8 weeks old); functionality of mp verified by intravital microscopy; cardiovascular; Atherosclerosis study; high-fat diet; Dose (1500 ug/kg/day);



**Q5609:** J. Li, *et al.* Akkermansia Muciniphila Protects Against Atherosclerosis by Preventing Metabolic Endotoxemia-Induced Inflammation in Apoe<sup>-/-</sup> Mice. *Circulation* 2016;133(24):2434-46

**Agents:** Endotoxin, LPS **Vehicle:** PBS; **Route:** SC; **Species:** Mice (knockout); **Strain:** Not Stated; **Pump:** 1004; **Duration:** 4 w; **ALZET Comments:** Controls received mp w/ vehicle; cardiovascular; Therapeutic indication (atherosclerosis); Dose (252ug/kg);

**Q6081:** K. H. M. Kwok, *et al.* Adipose-specific inactivation of JNK alleviates atherosclerosis in apoE-deficient mice. *Clinical Science* 2016;130(22):2087-2100

**Agents:** Adipocyte-fatty acid-binding protein **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice (knockout and transgenic); **Strain:** Not Stated; **Pump:** Not Stated; **Duration:** 4 weeks;

**ALZET Comments:** Dose (440 µg at a rate of 0.44 µg/h); cardiovascular;

**Q6578:** Y. Kojima, *et al.* CD47-blocking antibodies restore phagocytosis and prevent atherosclerosis. *Nature* 2016;536(7614):86-90

**Agents:** Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice (knockout); **Strain:** apoE<sup>-/-</sup>; **Pump:** 2004; **Duration:** 4 w

**ALZET Comments:** Dose (1000 ng/kg/min); animal info (8 week old male mice on the C57BL/6 background); cardiovascular

**Q5381:** K. Kohashi, *et al.* A Dipeptidyl Peptidase-4 Inhibitor but not Incretins Suppresses Abdominal Aortic Aneurysms in Angiotensin II-Infused Apolipoprotein E-Null mice. *Journal of Atherosclerosis and Thrombosis* 2016;23(4):441-454

**Agents:** Angiotensin II; Glucagon-like peptide-1; Glucose-dependent insulinotropic polypeptide **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** Apoe<sup>-/-</sup>; **Pump:** 1002; **Duration:** 4 weeks;

**ALZET Comments:** Controls received mp w/ vehicle; animal info (mice, 9 weeks old); functionality of mp verified by plasma levels, blood pressure; pumps replaced every 2 weeks; Multiple pumps per animal (2); 1 for either Ang II, GLP-1 or GIP; enzyme inhibitor (Dipeptidyl Peptidase-4 inhibitor); cardiovascular; atherosclerosis; peptides; Pathophysiology similarities btwn abdominal aortic aneurysms, atherosclerosis; Therapeutic indication (Abdominal aortic aneurysm); blood pressure measure via tail-cuff method; Dose (2000 ng/kg/min AngII, 2.16 nmol/kg/day GLP-1, 25 nmol/kg/day GIP); Resultant blood pressure (Start: 104 mmHg, End: 118 mmHg);

**Q6563:** S. Ito, *et al.* Crucial Role of the Aryl Hydrocarbon Receptor (AhR) in Indoxyl Sulfate-Induced Vascular Inflammation. *Journal of Atherosclerosis and Thrombosis* 2016;23(960-975

**Agents:** Indoxyl Sulfate **Vehicle:** DMSO; PBS; **Route:** Not Stated; **Species:** Mice (knockout); **Strain:** Hif-1α-deficient; **Pump:** 2002; **Duration:** Not Stated;

**ALZET Comments:** 20% DMSO used; animal info (8-10 week old male mice);

**Q4833:** X. Han, *et al.* Apelin: A novel inhibitor of vascular calcification in chronic kidney disease. *Atherosclerosis* 2016;244(1-8

**Agents:** Apelin-13 **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Strain:** Sprague Dawley; **Pump:** 2004; **Duration:** 6 weeks;

**ALZET Comments:** Controls received mp w/ vehicle; animal info (male); cardiovascular; bp measured using tail cuff; Dose (20 ug/kg/day);

**Q5763:** K. L. Chambliss, *et al.* Nonnuclear Estrogen Receptor Activation Improves Hepatic Steatosis in Female Mice. *Endocrinology* 2016;157(10):3731-3741

**Agents:** Estradiol, estrogen dendrimer conjugate **Vehicle:** Not Stated; **Route:** IP; **Species:** Mice; **Strain:** Not Stated; **Pump:** 2006; **Duration:** 12 weeks, 84 days;

**ALZET Comments:** Controls received mp w/ vehicle; animal info (5 weeks old, ovariectomy); pumps replaced every 6 weeks; long-term study; Therapeutic indication (atherosclerosis); Dose (6 ug/day);