



References (2015 – Present) on the Use of ALZET® Osmotic Pumps to Study Cardiac Fibrosis

- Q12244:** E. Dinakis, *et al.* pH-sensor GPR68 plays a role in how dietary fibre lowers blood pressure in a preclinical model of hypertension. *Clinical Science (Lond)* 2025;
Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** Gpr68-/-; Wild-type, C57BL/6J; **Pump:** 2004; **Duration:** 4 weeks;
ALZET Comments: Dose (0.75 mg/kg/day); controls received mp w/ vehicle; animal info (6 to 8 week old male); blood pressure measured via tail cuff; cardiovascular; hypertension; cardiac fibrosis; nephrology; renal fibrosis;
- Q12155:** T. Zhuang, *et al.* ALKBH5-mediated m6A modification of IL-11 drives macrophage-to-myofibroblast transition and pathological cardiac fibrosis in mice. *Nature Communications* 2024;15(1):1995
Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** Not Stated; **Duration:** 2 weeks;
ALZET Comments: Dose (1.44 mg/kg/day); controls received mp w/ saline; animal info (male; 8-12 weeks old; 1% isoflurane anesthesia); blood pressure measured via tail cuff method; peptides; cardiovascular;
- Q11801:** S. Yoshida, *et al.* Protein kinase N promotes cardiac fibrosis in heart failure by fibroblast-to-myofibroblast conversion. *Nature Communications* 2024;15(1):7638
Agents: AngII **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** Pdgfra-PKN1/2 WT; KO; **Pump:** 2004; **Duration:** 4 weeks;
ALZET Comments: Dose (1000 ng/g/d); controls received mp w/ PBS; animal info (8 week male); cardiovascular; fibrosis
- Q11988:** Z. Ye, *et al.* Myosin Light Chain Phosphatase Plays an Important Role in Cardiac Fibrosis in a Model of Mineralocorticoid Receptor-Associated Hypertension. *Journal of the American Heart Association* 2024;13(5):e032828
Agents: Aldosterone **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** MYPT2; **Pump:** 1002; **Duration:** 4 weeks;
ALZET Comments: Dose (0.15 ug/h); controls received mp w/ vehicle; animal info (male; 8 weeks old); pumps replaced every 2 weeks; blood pressure measured via tail cuff method; antihypertensive; cardiovascular;
- Q12313:** Z. Li, *et al.* WISP-1 Regulates Cardiac Fibrosis by Promoting Cardiac Fibroblasts' Activation and Collagen Processing. *Cells* 2024;13(11):
Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 2004; **Duration:** 28 days;
ALZET Comments: Dose (1000 ng/kg/min); animal info (isoflurane anesthesia, wound clips used); post op. care (buprenorphine); peptides; cardiovascular;
- Q12307:** N. Li, *et al.* The zinc-finger transcription factor KLF6 regulates cardiac fibrosis. *Life Science Alliance* 2024;351(122805)
Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 2004; **Duration:** 4 weeks;
ALZET Comments: Dose (1000 ng/kg/min); animal info (male; 8 weeks old, pentobarbital sodium anesthesia); cardiovascular;
- Q12306:** J. Li, *et al.* Deciphering m(6)A methylation in monocyte-mediated cardiac fibrosis and monocyte-hitchhiked erythrocyte microvesicle biohybrid therapy. *Theranostics* 2024;14(9):3486-3508
Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** Not Stated; **Duration:** 4 w;
ALZET Comments: Dose (1000 ng/kg/min); controls received mp w/ vehicle; animal info (8-10 weeks old, isoflurane anesthesia); peptides; cardiovascular; cardiac fibrosis;
- Q11830:** M. Cao, *et al.* Intracellular and extracellular Cyclophilin a promote cardiac fibrosis through TGF-beta signaling in response to angiotensin II. *Biochemical Pharmacology* 2024;225(116271)
Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** 2004; **Duration:** 4 weeks;
ALZET Comments: Dose (1.5 ug/min/kg); animal info (4-6 weeks, 20-25g); cardiovascular (cardiac fibrosis);
- Q12033:** J. M. Amrute, *et al.* Targeting immune-fibroblast cell communication in heart failure. *Nature* 2024;635(8038):423-433
Agents: Angiotensin II; Phenylephrine **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Mice; **Strain:** IL-IR flox/floxDermo1Cre; C57BL/6 background; **Pump:** 2001; 2004; **Duration:** 7; 28 days;
ALZET Comments: Dose: AngII (1.5 µg g/d); PE (50 µg g/d) animal info (male, female 8–10-week-old); cardiovascular (cardiac fibrosis)



Q11582: X. Song, *et al.* MicroRNA-19 upregulation attenuates cardiac fibrosis via targeting connective tissue growth factor. *American Journal of the Medical Sciences* 2023;365(4):375-385

Agents: AngII **Vehicle:** Saline; **Route:** Not Stated; **Species:** Rat; **Strain:** Sprague Dawley; **Pump:** Not Stated; **Duration:** 4 weeks; **ALZET Comments:** Dose (200 ng/kg/min); Controls received mp w/ vehicle; animal info: 180–220 g; Blood pressure measured;

Q10975: P. Pang, *et al.* The circular RNA circHelz enhances cardiac fibrosis by facilitating the nuclear translocation of YAP1. *Translational Research* 2023;257(30-42)

Agents: AngII **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** 2006; **Duration:** 8 weeks; **ALZET Comments:** Dose (25 mg/ml); animal info: eight-week-old male C57BL/6; (cardiac fibrosis, myocardial infarction)

Q11397: Z. G. Ma, *et al.* IRX2 regulates angiotensin II-induced cardiac fibrosis by transcriptionally activating EGR1 in male mice. *Nature Communications* 2023;14(1):4967

Agents: AngII **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** Irx2 cfKO, Irx2 mfKO; **Pump:** Not Stated; **Duration:** 12 weeks; **ALZET Comments:** Dose (1000 ng/kg/min); controls received mp w/ vehicle; animal info (male; 8-10 weeks old); long-term study; blood pressure measured via tail cuff method; cardiovascular (cardiac fibrosis/hypertrophy);

Q11187: Y. Liu, *et al.* MicroRNA-145 Attenuates Cardiac Fibrosis Via Regulating Mitogen-Activated Protein Kinase Kinase Kinase 3. *Cardiovascular Drugs and Therapy* 2023;37(4):655-665

Agents: Angiotensin II **Vehicle:** Saline; **Route:** Not Stated; **Species:** Mice; **Strain:** MiR-145 TG; **Pump:** 2004; **Duration:** 4 weeks; **ALZET Comments:** Dose: (1.44 mg/kg/day) Controls received mp w/ vehicle; animal info: 8- to 10-week-old male MiR-145 TG mice (22-25 g) post op. care: The incision was closed and the mice were placed on the warming pad until fully awake

Q11051: J. C. Li, *et al.* Angiotensin II mediates hypertensive cardiac fibrosis via an ErbB4-IR-dependent mechanism. *Molecular Therapy Nucleic Acids* 2023;33(180-190)

Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** 2004; **Duration:** 28 days; **ALZET Comments:** Dose (1.46 mg/kg/day); controls received mp w/ saline; animal info (male; 8-10 weeks old); blood pressure measured via tail cuff method; peptides; cardiovascular; "Indeed, chronic Ang II infusion markedly upregulated cardiac ErbB4-IR, which was associated with hypertension and development of hypertensive cardiac disease, as demonstrated by significant reductions in LVEF and LVFS and increases in LV mass and cardiac fibrosis." pg. 183;

Q11752: A. Jeong, *et al.* Circular RNA circSMAD4 regulates cardiac fibrosis by targeting miR-671-5p and FGFR2 in cardiac fibroblasts. *Molecular Therapy Family of Journals* 2023;34(102071)

Agents: Isoproterenol **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** Not Stated; **Duration:** 6 days; **ALZET Comments:** Dose: (30 mg/kg/day); controls received mp w/ PBS; animal info (adult male 8–10 weeks old);

Q11365: R. A. Feroze, *et al.* Ultrasound-Induced Microbubble Cavitation for Targeted Delivery of MiR-29b Mimic to Treat Cardiac Fibrosis. *Ultrasound in Medicine & Biology* 2023;49(12):2573-2580

Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57/BL6; **Pump:** 2002; **Duration:** 7 days; **ALZET Comments:** Dose (2 mg/kg/d); animal info (Male); peptides; cardiovascular (cardiac fibrosis);

Q11408: NPRC deletion attenuates cardiac fibrosis in diabetic mice by activating PKA/PKG and inhibiting TGF-β1/Smad pathways. *Science Advances* 2023;

Agents: Atrial natriuretic peptide; brain natriuretic peptide; C-type natriuretic peptide **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 2004; **Duration:** 28 days;

ALZET Comments: Dose (ANP 0.5 ug/kg/min; BNP 0.03 ug/kg/min; CNP 0.1 ug/kg/min); dose-response (see pg. 18); controls received mp w/ vehicle; animal info (male; 8 weeks old); blood pressure measured via tail-cuff method; peptides;

Q10856: J. Yuan, *et al.* Inhibition of Wdr5 Attenuates Ang-II-Induced Fibroblast-to-Myofibroblast Transition in Cardiac Fibrosis by Regulating Mdm2/P53/P21 Pathway. *Biomolecules* 2022;12(11):

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57/B6; **Pump:** 2004; **Duration:** 4 weeks;

ALZET Comments: Dose: (1000 ng/kg/min); Controls received mp w/ vehicle; animal info: Eight-week old mice (male, bodyweight: 23 +/- 2 g); Blood pressure measured via non-invasive tail-cuff; Blood pressure measurement (p.13) see fig.7 (E,F);



Q10765: B. Wang, *et al.* Loss of BTK Ameliorates the Pathological Cardiac Fibrosis and Dysfunction. *Matrix Biology* 2022;112(171-189

Agents: AngII **Vehicle:** Saline, sterile; **Route:** SC; **Species:** Mice; **Strain:** BTK KO; Wildtype; **Pump:** 2004; **Duration:** 28 days; **ALZET Comments:** Dose: Ang II (1000 ng/kg/min); ISO (15 mg/kg/d); Controls received mp w/ vehicle; animal info: 8-10-week-old mice post op. care: mice were placed on a warm pad at 37 °C until full consciousness was regained; cardiovascular;

Q10766: B. Wang, *et al.* Loss of KDM5B Ameliorates Pathological Cardiac Fibrosis and Dysfunction by Epigenetically Enhancing ATF3 Expression. *Experimental & Molecular Medicine* 2022;54(12):2175-2187

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** Wild-type C57BL/6; **Pump:** 2004; **Duration:** 28 days; **ALZET Comments:** Dose (1000 ng/kg/min); Controls received mp w/ vehicle; animal info (mice), 8–10-week-old male mice; post op. care (Mice were positioned on a warming pad at 37 °C until full consciousness was restored); cardiovascular;

Q11589: M. Su, *et al.* Epididymal white adipose tissue promotes angiotensin II-induced cardiac fibrosis in an exosome-dependent manner. *Translational Research* 2022;248(51-67

Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** 1004; **Duration:** 4 weeks; **ALZET Comments:** Dose: (2 mg/kg/day); animal info: male 6/8 weeks; cardiovascular;

Q10650: C. Pozder Geb Gehlken, *et al.* Pectins From Various Sources Inhibit Galectin-3-Related Cardiac Fibrosis. *Current Research in Translational Medicine* 2022;70(1):103321

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 2004; **Duration:** 14 days; **ALZET Comments:** Dose (2.5 mg/kg/day); Controls received mp w/ vehicle; animal info (8-10 weeks old; Male); post op. care: 3.0 mg/kg flunixin-meglumin; peptides; cardiovascular; Therapeutic indication (Cardiac fibrosis);

Q10826: C. Li, *et al.* CTRP1 Aggravates Cardiac Fibrosis by Regulating The NOX2/P38 Pathway in Macrophages. *Cell Journal* 2022;24(12):732-740

Agents: ab151376, recombinant **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** Not Stated; **Duration:** 2 w; **ALZET Comments:** Dose (200 µg/kg); Controls received mp w/ vehicle; animal info (Male; 4-6 weeks old); ab151376 is a recomb CTRP1 full length protein; peptides; cardiovascular;

Q10756: X. Huang, *et al.* Substitution of SERCA2 Cys(674) Aggravates Cardiac Fibrosis by Promoting the Transformation of Cardiac Fibroblasts to Cardiac Myofibroblasts. *Biochemical Pharmacology* 2022;203(115164

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** Wild-type; SKI; **Pump:** 2004; **Duration:** 7 days; **ALZET Comments:** Dose: (1.44 mg/kg/day); Controls received mp w/ vehicle; animal info: Male at 7 weeks old (18–22 g); post op. care: The incision was sealed with sterile sutures and disinfected with an iodophor; cardiovascular;

Q10536: Y. Hada, *et al.* Cilostazol Attenuates AngII-Induced Cardiac Fibrosis in apoE Deficient Mice. *International Journal of Molecular Sciences* 2022;23(16):

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** apoE; **Pump:** 2004; **Duration:** 28 days; **ALZET Comments:** Dose: (1000 ng/kg/1 min); Controls received mp w/ vehicle; animal info: Male, 8- to 12-week-old; Blood pressure measured via: tail cuff system SBP (mmHg) measurements see (pg.2)Table 1; cardiovascular (Heart failure)

Q10520: N. Feng, *et al.* Exercise training attenuates angiotensin II-induced cardiac fibrosis by reducing POU2F1 expression. *Journal of Sport and Health Science* 2022;

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** 1004; 1002; **Duration:** 6 weeks; **ALZET Comments:** Dose (1.44 mg/kg/d); Controls received mp w/ vehicle; animal info (Male; Mice; 6-10 weeks old); peptides; behavioral testing (Treadmill); cardiovascular (fibrosis)

Q10426: H. Chen, *et al.* microRNA-135a-5p regulates NOD-like receptor family pyrin domain containing 3 inflammasome-mediated hypertensive cardiac inflammation and fibrosis via thioredoxin-interacting protein. *Bioengineered* 2022;13(3):4658-4673

Agents: AngII **Vehicle:** Saline; **Route:** Not Stated; **Species:** Mice; **Strain:** Not Stated; **Pump:** 1007D; **Duration:** Not Stated; **ALZET Comments:** Dose (1.5 mg/kg/day); Controls received mp w/ vehicle; animal info (Male; 24 total; 8 weeks old); Blood pressure measured via tail-cuff blood pressure system; peptides; cardiovascular; Therapeutic indication (Cardiac fibrosis);



Q10913: Y. Zou, *et al.* Cardiac Wnt5a and Wnt11 Promote Fibrosis by the Crosstalk of FZD5 and EGFR Signaling Under Pressure Overload. *Cell Death & Disease* 2021;12(10):877

Agents: Wnt5a, recombinant rat; Wnt11, recombinant rat **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** 1002; **Duration:** Not Stated;

ALZET Comments: Dose: Wnt5a 560 ng/kg/d, Wnt11 86 ng/kg/d; animal info (male; 12-weeks old); cardiovascular; Therapeutic indication (cardiac fibrosis);

Q9882: Y. H. Yu, *et al.* MicroRNA-99b-3p promotes angiotensin II-induced cardiac fibrosis in mice by targeting GSK-3beta. *Acta Pharmacologica Sinica* 2021;42(5):715-725

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** Not Stated; **Duration:** 2 weeks;

ALZET Comments: Dose (2 mg/kg/day); Controls received mp w/ vehicle; animal info (Male, 18-22 g); cardiovascular;

Q9547: M. Wang, *et al.* Endothelial NADPH oxidase 4 protects against angiotensin II-induced cardiac fibrosis and inflammation. *ESC Heart Failure* 2021;8(2):1427-1437

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** 1002; **Duration:** 14 days;

ALZET Comments: Dose (1.1 mg/kg/day); Controls received mp w/ vehicle; animal info (male Mice, 8-16 weeks old); cardiovascular;

Q9248: Z. Gong, *et al.* UCHL1 inhibition attenuates cardiac fibrosis via modulation of nuclear factor-kappaB signaling in fibroblasts. *European Journal of Pharmacology* 2021;900(174045)

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** Not Stated; **Duration:** 4 weeks;

ALZET Comments: Dose (1000 ng/kg/min); Controls received mp w/ vehicle; animal info (8-week-old mice); Blood pressure measured via tail-cuff method;120 mmHg - 180 mmHg; cardiovascular

Q12121: A. Eguchi, *et al.* GRK5 is a regulator of fibroblast activation and cardiac fibrosis. *Medical Sciences, Biological Sciences* 2021;118(5):

Agents: Angiotensin II **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Strain:** Fibroblast-specific GRK5 knock out (KO); **Pump:** Not Stated; **Duration:** 4 weeks;

ALZET Comments: Dose: (1 ug/kg/min); controls received mp w/ vehicle; cardiovascular (myocardial infarction);

Q9848: W. W. Zhang, *et al.* Steroidogenic acute regulatory protein/aldosterone synthase mediates angiotensin II-induced cardiac fibrosis and hypertrophy. *Molecular Biology Reports* 2020;47(2):1207-1222

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Strain:** Sprague–Dawley; **Pump:** 2004; **Duration:** 4 weeks;

ALZET Comments: Dose (500 ng/kg/min); 0.9% sterile saline; Controls received mp w/ vehicle; animal info (Male 200–250 g);

Q9552: T. Wilhelmi, *et al.* Serelaxin alleviates cardiac fibrosis through inhibiting endothelial-to-mesenchymal transition via RFXP1. *Theranostics* 2020;10(9):3905-3924

Agents: Serelaxin; Angiotensin II **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6N; **Pump:** 1004; 1002; **Duration:** 28 days; 2 weeks;

ALZET Comments: Dose (50, 200 and 500 µg/kg bodyweight/day Serelaxin; 1.5 mg/kg per day Angiotensin II); dose-response (graph, p. 3911); Controls received mp w/ vehicle; animal info (14- to 16-week-old mice between 25-30 g); cardiovascular

Q9546: X. Wang, *et al.* CTRP12 Alleviates Isoproterenol Induced Cardiac Fibrosis via Inhibiting the Activation of P38 Pathway. *Chemical and Pharmaceutical Bulletin* 2020;

Agents: Tumor necrosis factor-alpha, recomb **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL6J; **Pump:** Not Stated; **Duration:** 2 weeks;

ALZET Comments: Dose (0.2 ug/g/d); animal info (male 8-10 weeks old, 23.5-27.5 g); Tumor necrosis factor-alpha, recomb aka CTRP12; cardiovascular;

Q9946: G. Wang, *et al.* MicroRNA-132 attenuated cardiac fibrosis in myocardial infarction-induced heart failure rats. *Bioscience Reports* 2020;40(9):

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Strain:** Sprague Dawley; **Pump:** 2004; **Duration:** 4 weeks;

ALZET Comments: Dose (500 ng/kg/min); Controls received mp w/ vehicle; animal info (Male, 180-200 g); cardiovascular;



Q9488: H. Su, *et al.* Sirtuin 3 is essential for hypertension-induced cardiac fibrosis via mediating pericyte transition. *Journal of Cellular and Molecular Medicine* 2020;24(14):8057-8068

Agents: AngII **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** WT; SIRT3KO; **Pump:** Not Stated; **Duration:** 28 days;
ALZET Comments: Dose (1000 ng/kg/min); Blood pressure measured via tail-cuff occlusion method; 110 mmHg - 160 mmHg;

Q9227: J. Francisco, *et al.* Blockade of Fibroblast YAP Attenuates Cardiac Fibrosis and Dysfunction Through MRTF-A Inhibition. *JACC: Basic Translational Science* 2020;5(9):931-945

Agents: Angiotensin II; Phenylephrine **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** Not Stated;
Duration: 2 weeks;

ALZET Comments: Dose (288 ug/kg/day Angiotensin II; 100 mg/kg/day Phenylephrine); Controls received mp w/ vehicle; animal info (8 to 10 week old); Phenylephrine aka PE; cardiovascular;

Q8437: M. Deng, *et al.* Overexpression of peptidase inhibitor 16 attenuates angiotensin II-induced cardiac fibrosis via regulating HDAC1 of cardiac fibroblasts. *Journal of Cellular and Molecular Medicine* 2020;24(9):5249-5259

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** PI16-Tg; **Pump:** 2004; **Duration:** 28 days;
ALZET Comments: Dose (3.6 mg/kg/d); Controls received mp w/ vehicle; animal info (Eight- to twelve-week-old male mice);

Q8429: B. Corden, *et al.* Therapeutic Targeting of Interleukin-11 Signalling Reduces Pressure Overload-Induced Cardiac Fibrosis in Mice. *Journal of Cardiovascular Translational Research* 2020;14(2):222-228

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** Not stated; **Duration:** 4 weeks;
ALZET Comments: Dose (2 mg/kg/day); Controls received mp w/ vehicle; animal info (male, 10-12 week old mice)

Q8345: Q. Bao, *et al.* Intermittent hypoxia mediated by TSP1 dependent on STAT3 induces cardiac fibroblast activation and cardiac fibrosis. *Elife* 2020;9(**Agents:** Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 2004;
Duration: 28 days;

ALZET Comments: Dose (1 mg/kg/day); 0.9% w/v used; Controls received mp w/ vehicle; animal info (Male, 8–10 weeks);

Q7491: S. Takahara, *et al.* New Noonan syndrome model mice with RIT1 mutation exhibit cardiac hypertrophy and susceptibility to beta-adrenergic stimulation-induced cardiac fibrosis. *EBioMedicine* 2019;42(43-53

Agents: Isoproterenol **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** 1004; **Duration:** 7 days;
ALZET Comments: Dose (10 mg/kg/day); Controls received mp w/ vehicle; animal info (11-week-old); cardiovascular; Therapeutic indication (cardiac fibrosis);

Q6793: G. She, *et al.* 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

Agents: Ang II **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Strain:** Sprague Dawley; **Pump:** Not Stated; **Duration:** 4 weeks;
ALZET Comments: Dose (0.8 mg/kg/day); Controls received mp w/ vehicle; animal info (Male rats (180-200 g)); cardiovascular;

Q6951: R. Rai, *et al.* Acetyltransferase p300 inhibitor reverses hypertension-induced cardiac fibrosis. *J Cell Mol Med* 2019;

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

Q7615: H. Ni, *et al.* Inhibition of circHIPK3 prevents angiotensin II-induced cardiac fibrosis by sponging miR-29b-3p. *Int J Cardiol* 2019;292(188-196

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** Not Stated; **Duration:** 2 weeks;
ALZET Comments: Dose (1.5 ug/kg/min); Controls received mp w/ vehicle; cardiovascular;

Q9189: B. S. Man Chow, *et al.* Evidence of AT1R-AT2R-RXFP1 Functional Crosstalk in Myofibroblasts and its Impact on the Therapeutic Targeting of Renal and Cardiac Fibrosis. *Journal of the American Society of Nephrology* 2019;

Agents: Relaxin-2; candesartan cilexetil **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** 1007D; 2002;
Duration: 7 days;

ALZET Comments: Dose (0.5 mg/kg/day); Controls received mp w/ vehicle; animal info: eight week old male; Blood pressure measured via tail cuff plethysmography; Relaxin-2 aka RLX; cardiovascular;



Q8256: J. N. Liang, *et al.* The Smad3-miR-29b/miR-29c axis mediates the protective effect of macrophage migration inhibitory factor against cardiac fibrosis. *Biochim Biophys Acta Mol Basis Dis* 2019;1865(9):2441-2450

Agents: Angiotensin II **Vehicle:** Not stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** 2002; **Duration:** 14 days;

ALZET Comments: Dose (1.46 mg/kg/day); animal info (Male, 20 +/- 3g); cardiovascular;

Q7601: S. Ichihara, *et al.* Ablation of aryl hydrocarbon receptor promotes angiotensin II-induced cardiac fibrosis through enhanced c-Jun/HIF-1alpha signaling. *Archives of Toxicology* 2019;93(6):1543-1553

Agents: angiotensin II; fenofibrate **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** Wild type (WT), Ahr-null; **Pump:** Not Stated; **Duration:** 2 weeks;

ALZET Comments: Dose ((Ang II 50, 100 ng/kg/min), (fenofibrate 30 mg/kg/day)); Controls received mp w/ vehicle; animal info (male,); Fenofibrate is a specific PPARalpha activator; cardiovascular; Therapeutic indication (reduced cardiac fibrosis through suppression of endothelin, c-Jun, HIF-1alpha, and VEGF gene expression);

Q7276: P. Y. Chu, *et al.* CXCR4 Antagonism Reduces Cardiac Fibrosis and Improves Cardiac Performance in Dilated Cardiomyopathy. *Front Pharmacol* 2019;10(117)

Agents: AMD3100 **Vehicle:** Water; **Route:** Not Stated; **Species:** Mice; **Strain:** Not Stated; **Pump:** 2004; **Duration:** 12 weeks;

ALZET Comments: Dose (6 mg/kg per day,); animal info (male mice age 6 weeks); long-term study; CXCR4 antagonist aka AMD3100; cardiovascular;

Q7447: Y. L. Chen, *et al.* Unique mechanistic insights into the beneficial effects of angiotensin-(1-7) on the prevention of cardiac fibrosis: A metabolomic analysis of primary cardiac fibroblasts. *Clinical and Experimental Pharmacology and Physiology* 2019;378(2):158-170

Agents: Angiotensin (1-7), Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Strain:** Sprague-Dawley; **Pump:** 2004;

Duration: 28 days;

ALZET Comments: Dose (Ang II- 500 ng/kg/min, Ang II + Ang (1-7) 500 ng/kg/min); Controls received mp w/ vehicle; animal info (Male,); cardiovascular;

Q7444: R.-R. Chen, *et al.* Irisin attenuates angiotensin II-induced cardiac fibrosis via Nrf2 mediated inhibition of ROS/TGFβ1/Smad2/3 signaling axis. *Chemico-Biological Interactions* 2019;302(11-21)

Agents: Angiotensin II **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Strain:** C57/BL6; **Pump:** 2004; **Duration:** 4 weeks;

ALZET Comments: Dose (1.3 mg/kg/day); Controls received mp w/ vehicle; animal info (male, 8-12 weeks old); cardiovascular;

Q7958: H. Chen, *et al.* WWP2 regulates pathological cardiac fibrosis by modulating SMAD2 signaling. *Nature Communications* 2019;10(1):3616

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** WWP2(wt/wt; WWP2(Mut/Mut); **Pump:** 1004;

Duration: 4 weeks;

ALZET Comments: Dose (500 ng/kg/min); Controls received mp w/ vehicle; animal info (8 weeks,); cardiovascular;

Q8683: H. Aghajanian, *et al.* Targeting cardiac fibrosis with engineered T cells. *Nature* 2019;573(7774):430-433

Agents: Angiotensin II; Phenylephrine **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** 2004; **Duration:** 28 d;

ALZET Comments: Dose (Ang II- 1.5 ug/g/day, PE- 50 ug/g/day); 0.9% Saline used; Controls received mp w/ vehicle; Phenylephrine aka PE; cardiovascular;

Q6908: R. R. Zhao, *et al.* Targeting Chondroitin Sulfate Glycosaminoglycans to Treat Cardiac Fibrosis in Pathological Remodeling. *Circulation* 2018;137(23):2497-2513

Agents: Isoproterenol **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Strain:** Not Stated; **Pump:** 2ML2; **Duration:** 4 weeks;

ALZET Comments: Dose (3 mg/kg/day); animal info (adult rats); cardiovascular; Therapeutic indication (cardiac fibrosis);



Q7840: M. Waldman, *et al.* PARP-1 inhibition protects the diabetic heart through activation of SIRT1-PGC-1alpha axis. *Experimental Cell Research* 2018;373(1-2):112-118

Agents: Angiotensin II; INO-1001 **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BLKS/J; C57BLKS/J-leprdb/leprdb; **Pump:** Not Stated; **Duration:** 4 weeks;

ALZET Comments: Dose ((AngII 1000 ng/kg/min), (INO-1001 5 mg/kg/day)); Controls received no pump; animal info (12-14 weeks, male,); Multiple pumps per animal (2 for AT + INO group); INO-1001 is an enzyme inhibitor (PARP-1); diabetes; Therapeutic indication (PARP-1 inhibition by INO1001 promoted weight loss in the diabetic mice stressed with AT. It attenuated cardiac fibrosis and hypertension in diabetic mice and prevented oxidative stress.);

Q7930: R. Verjans, *et al.* MicroRNA-221/222 Family Counteracts Myocardial Fibrosis in Pressure Overload-Induced Heart Failure. *Hypertension* 2018;71(2):280-288

Agents: AngII **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** Not Stated; **Duration:** 4 Weeks;

ALZET Comments: Dose (2.5 mg/kg/d); Controls received sham surgery; animal info (8 weeks, male,); cardiovascular; AngII used to induce cardiac fibrosis;

Q7845: F. Qiu, *et al.* Pharmacological inhibition of SUMO-1 with ginkgolic acid alleviates cardiac fibrosis induced by myocardial infarction in mice. *Toxicol Appl Pharmacol* 2018;345(1-9

Agents: ginkgolic acid **Vehicle:** saline; DMSO; **Route:** SC; **Species:** Mice; **Strain:** Kunming; **Pump:** 1002; **Duration:** 10 days;

ALZET Comments: Dose (20, 50 mg/kg/d); saline with 0.1% DMSO used; Controls received sham surgery and mp w/ vehicle; animal info (male, 20-25g); GA aka 2-hydroxy-6-(8-pentadecenyl) is an alkyl-phenol compounds found in Ginkgo; cardiovascular; Therapeutic indication (GA ameliorated MI-induced cardiac fibrosis and dysfunction at least partially due to inhibition of SUMO modification.);

Q7060: S. Park, *et al.* Genetic Regulation of Fibroblast Activation and Proliferation in Cardiac Fibrosis. *Circulation* 2018;138(12):1224-1235

Agents: Isoproterenol **Vehicle:** Saline; **Route:** IP; **Species:** Mice; **Strain:** C57BL/6J. C3H/HeJ, KK/HIJ; **Pump:** Not Stated;

Duration: 14 days; 21 days;

ALZET Comments: Dose (30 mg/kg/day); Controls received mp w/ vehicle; animal info (mice); cardiovascular;

Q7207: S. Maruyama, *et al.* 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):

Agents: Angiotensin II, Insulin-like peptide 6 **Vehicle:** Saline, ammonium bicarbonate; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** 1002, 2002; **Duration:** 14 days;

ALZET Comments: 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;

Q7130: L. E. Dorn, *et al.* CTGF/CCN2 is an autocrine regulator of cardiac fibrosis. *J Mol Cell Cardiol* 2018;121(205-211

Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** Not Stated; **Duration:** 1 w;

ALZET Comments: Dose (1.5 ug/kg/min); Controls received mp w/ vehicle; animal info (10–12 weeks-old, males, females); cardiovascular;

Q7799: S. Deckx, *et al.* Osteoglycin prevents the development of age-related diastolic dysfunction during pressure overload by reducing cardiac fibrosis and inflammation. *Matrix Biology* 2018;66(110-124

Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 2004; **Duration:** 1, 3, 5, 7, 14 or 28 days; 4 weeks;

ALZET Comments: Dose ((Exp1. 2.5 mg/kg/day), (Exp2. 1.5 mg/kg/day)); Controls received sham surgery; animal info ((Exp1. 3 months, male and female, (Exp2. 19 months, male and female, C57BL/6J or Ogn null)); cardiovascular; Exp1. time-series (1, 3, 5, 7, 14 or 28 days) and Exp2. aging study for 4 weeks;



Q5722: J. Zhang, *et al.* Targeted inhibition of Focal Adhesion Kinase Attenuates Cardiac Fibrosis and Preserves Heart Function in Adverse Cardiac Remodeling. *Sci Rep* 2017;7(43146)

Agents: PF-573228 **Vehicle:** DMSO; PEG 300; **Route:** SC; **Species:** Mice; **Strain:** CD1; **Pump:** 2002; **Duration:** Not Stated; **ALZET Comments:** Dose (20 mg/kg); Controls received mp w/ vehicle; animal info (male, 6-8 weeks old); pumps replaced every 2 weeks; 50% DMSO used; 50% PEG 300 used; stress/adverse reaction: one mouse in the MI treated with PF group died of sudden death during pump implantation (see pg. 5); cardiovascular; Pumps primed in 37C saline overnight; used sutures;

Q6275: Y. Wei, *et al.* Inhibition of microRNA155 ameliorates cardiac fibrosis in the process of angiotensin II induced cardiac remodeling. *Mol Med Rep* 2017;16(5):7287-7296

Agents: AngII **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Strain:** miR-155-/-; wild-type C57Bl/6J; **Pump:** 2004; **Duration:** 4 weeks; **ALZET Comments:** Dose (1.5 µg/g/day); Controls received mp w/ vehicle; animal info (10-12-week-old male mice); cardiovascular;

Q5990: S. Su. EphrinB2 Regulates Cardiac Fibrosis Through Modulating the Interaction of Stat3 and TGF-β/Smad3 Signaling. *Circulation Research* 2017;121(6):

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** 2004; **Duration:** 28 days; **ALZET Comments:** Controls received mp w/ vehicle; animal info (8-10 weeks); cardiovascular; Therapeutic indication (Cardiac function, hypertrophy); Dose (1000 ng/kg);

Q6468: K. K. Gupta, *et al.* Plasminogen Activator Inhibitor-1 Protects Mice Against Cardiac Fibrosis by Inhibiting Urokinase-type Plasminogen Activator-mediated Plasminogen Activation. *Sci Rep* 2017;7(1):365

Agents: AngII **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6 J; **Pump:** Not Stated; **Duration:** 28 days; **ALZET Comments:** animal info (8-12 week old male mice); cardiovascular;

Q6250: Guo X, *et al.* SIRT3 attenuates AngII-induced cardiac fibrosis by inhibiting myofibroblasts transdifferentiation via STAT3-NFATc2 pathway. *American Journal of Translational Research* 2017;9(7):3258-3269

Agents: Angiotensin II **Vehicle:** Water, double distilled; **Route:** SC; **Species:** Mice (knockout); **Strain:** SIRT3-KO; wild-type; **Pump:** 1007D; **Duration:** 28 days; **ALZET Comments:** Dose (2000 ng/kg/min); animal info; Mice; cardiovascular;

Q6263: P. Flevaris, *et al.* Plasminogen Activator Inhibitor Type I Controls Cardiomyocyte Transforming Growth Factor-beta and Cardiac Fibrosis. *Circulation* 2017;136(7):664-679

Agents: Angiotensin II **Vehicle:** PBS; **Route:** SC; **Species:** Mice (knockout); **Strain:** Wild-type; PAI-1-/-; **Pump:** 1002; **Duration:** 7 days; 14 days; 28 days; **ALZET Comments:** Dose (1 µg/kg/min; 1000 ng/kg/day); Controls received mp w/ vehicle; animal info; cardiovascular;

Q5507: B. Zhang, *et al.* Store-Operated Ca²⁺ Entry (SOCE) contributes to angiotensin II-induced cardiac fibrosis in cardiac fibroblasts. *J Pharmacol Sci* 2016;132(3):171-180

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL6; **Pump:** 1002; **Duration:** 2 weeks; **ALZET Comments:** Controls received mp w/ vehicle; animal info (male, 20-25g); cardiovascular; peptides; dose (1.2 mg/kg/day);

Q4885: Yue Shen, *et al.* Granzyme B Deficiency Protects against Angiotensin II Induced Cardiac Fibrosis. *American Journal of Pathology* 2016;186(87-100)

Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL6J; **Pump:** 1004; **Duration:** 4 weeks; **ALZET Comments:** Controls received mp w/ saline; animal info (male, 3-4 months old); post op. care (SC buprenorphine injection); cardiovascular; peptides; pumps primed 24 hours in 37C saline; bp measured using tail cuff; Dose (1000 ng/kg/min);

Q4919: M. Xiyan Zhang, *et al.* Pentoxifylline Ameliorates Cardiac Fibrosis, Pathological Hypertrophy and Cardiac Dysfunction in Angiotensin II-induced Hypertensive Rats. *J Cardiovasc. Pharmacol* 2016;67(1):76-85

Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Strain:** Sprague Dawley; **Pump:** 2002; **Duration:** 2 weeks; **ALZET Comments:** animal info (male, Sprague Dawley, 250-300g); animal info (male, 250-300g); immunology; peptides; bp measured using tail cuff; Dose (200 ng/kg/min)



Q5698: D. Wang, *et al.* Effects of relaxin on cardiac fibrosis, apoptosis, and tachyarrhythmia in rats with myocardial infarction. *Biomedicine & Pharmacotherapy* 2016;84(348-355

Agents: Relaxin, recomb. human **Vehicle:** Sodium acetate; **Route:** SC; **Species:** Rat; **Strain:** Sprague Dawley; **Pump:** Not Stated; **Duration:** 14 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (male, 250-300g); cardiovascular; Dose (0.5 mg/kg/day);

Q5473: E. Velkoska, *et al.* Diminazene Aceturate Improves Cardiac Fibrosis and Diastolic Dysfunction in Rats with Kidney Disease. *PLoS One* 2016;11(8):e0161760

Agents: Dominatene acetirete **Vehicle:** Not Stated **Route:** SC **Species:** Rat **Strain:** Sprague Dawley **Pump:** 2002 **Duration:** 2w

ALZET Comments: Controls received mp w/ vehicle; animal info (female, 190-210g); cardiovascular; Diminazene aceturate aka DIZE; Dose (15 mg/kg/day);

Q5176: A. Pedram, *et al.* Estrogen receptor beta signals to inhibition of cardiac fibrosis. *Mol Cell Endocrinol* 2016;434(57-68

Agents: Angiotensin II; LGND2, Beta- **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** WT; ERB gene deleted, OVX; **Pump:** Not Stated; **Duration:** 21 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (female, 12-16 weeks old); cardiovascular; peptides; B-LGND2 is a selective ERB agonist; Dose (0.7 mg/kg/day);

Q6174: T. Numaga-Tomita, *et al.* TRPC3-GEF-H1 axis mediates pressure overload-induced cardiac fibrosis. *Sci Rep* 2016;6(39383

Agents: Pyrazole-3 **Vehicle:** PEG; **Route:** IP; **Species:** Mice; **Strain:** Not Stated; **Pump:** 2004; **Duration:** Not Stated;

ALZET Comments: Dose (10, 30 or 100 ug/kg/day); dose-response (); Controls received mp w/ vehicle; animal info (6–8 weeks old male mice); Pyrazole-3 is an inhibitor of transient receptor potential canonical 3 (TRPC3) channel activity; Therapeutic indication (Cardiac fibrosis);

Q4856: S. Liu, *et al.* Autophagy activation attenuates angiotensin II-induced cardiac fibrosis. *Archives of Gerontology and Geriatrics* 2016;59(37-47

Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** C57BL6; **Pump:** 1002; **Duration:** 2 weeks;

ALZET Comments: Controls received mp w/ vehicle; animal info (male, 20-25g); cardiovascular; cardiovascular;

Q5576: S. T. Haller, *et al.* Rapamycin Attenuates Cardiac Fibrosis in Experimental Uremic Cardiomyopathy by Reducing Marinobufagenin Levels and Inhibiting Downstream Pro-Fibrotic Signaling. *J Am Heart Assoc* 2016;5(10):

Agents: Rapamycin, marinobufagenin **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Strain:** Sprague-Dawley; **Pump:** 2004; **Duration:** 4 weeks;

ALZET Comments: animal info (Male rats weighing 250–300 g); Multiple pumps per animal (2 minipumps were implanted for coadministration of rapamycin and MBG); Marinobufagenin is a cardiotonic steroid; Dose (MBG 10 ug/kg/day; rapamycin 0.2 mg/kg/d);

Q4271: Q. D. Zhao, *et al.* NADPH Oxidase 4 Induces Cardiac Fibrosis and Hypertrophy Through Activating Akt/mTOR and NFkappaB Signaling Pathways. *Circulation* 2015;131(643-U152

Agents: Angiotensin II **Vehicle:** Water; **Route:** IP; **Species:** Mice (transgenic); **Strain:** lox-stop-lox human Nox4 Tg; **Pump:** 1004; **Duration:** 14 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (male, 16 weeks); no stress (see pg. 644); cardiovascular; peptides;

Q4659: L. Yang, *et al.* CYP epoxygenase 2J2 prevents cardiac fibrosis by suppression of transmission of pro-inflammation from cardiomyocytes to macrophages. *PROSTAGLANDINS & OTHER LIPID MEDIATORS* 2015;116(64-75

Agents: Isoproterenol; angiotensin II **Vehicle:** Ascorbic acid; saline; **Route:** SC; **Species:** Mice; **Strain:** CYP2J2 Tg; Wild-Type C57BL6; **Pump:** 1002; **Duration:** 14 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (male); 0.002% ascorbic acid used; cardiovascular; immunology; peptides; bp measured using catheter



Q5267: J. Shi, *et al.* Bendavia restores mitochondrial energy metabolism gene expression and suppresses cardiac fibrosis in the border zone of the infarcted heart. *Life Sciences* 2015;141(170-8

Agents: SS-31 **Vehicle:** water; **Route:** SC; **Species:** Rat; **Strain:** Sprague–Dawley; **Pump:** 2006; **Duration:** Not Stated;
ALZET Comments: Controls received mp w/ vehicle, sham operation; animal info (female rats); ischemia (myocardial infarction); cardiovascular; SS-31 aka Bendavia; Dose (3 mg/kg/day);

Q5001: J. M. Lorenzen, *et al.* Osteopontin is indispensable for AP1-mediated angiotensin II-related miR-21 transcription during cardiac fibrosis. *European Heart Journal* 2015;36(32):2184–96

Agents: Angiotensin II **Vehicle:** Water; **Route:** SC; **Species:** Mice; **Strain:** OPN WT; OPN KO; **Pump:** 2002; **Duration:** 2 weeks;
ALZET Comments: Controls received sham operation; cardiovascular; peptides; Dose (1.5 mg/kg/day);

Q5161: Guanghua Hao, *et al.* Ets-1 upregulation mediates angiotensin II-related cardiac fibrosis. *INTERNATIONAL JOURNAL OF CLINICAL AND EXPERIMENTAL PATHOLOGY* 2015;8(9):10216-10227

Agents: AngII **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Strain:** Sprague-Dawley; **Pump:** 2001; **Duration:** 3 days; 7 days;
ALZET Comments: Controls received mp w/ vehicle; animal info: Male rats (180±1.6 g); functionality of mp verified by systolic blood pressure; dose-response (pg 10219); cardiovascular; peptides; Overall study looks at cardiac fibrosis; Dose: 150 ng/kg/min

Q4379: P. Y. Chu, *et al.* CXCR4 Antagonism Attenuates the Development of Diabetic Cardiac Fibrosis. *PLoS One* 2015;10(U1392-U1404

Agents: AMD3100; AMD3465 **Vehicle:** Water; sodium bicarbonate; **Route:** SC; **Species:** Mice; **Strain:** C57BL6;; **Pump:** 2004;
Duration: 1 week; 8 weeks;
ALZET Comments: Controls received mp w/ vehicle; animal info (male, C57BL6, 6 weeks old, STZ injection); cardiovascular; immunology; bp measured using tail cuff;

Q4317: S. Balasubramanian, *et al.* Dasatinib Attenuates Pressure Overload Induced Cardiac Fibrosis in a Murine Transverse Aortic Constriction Model. *PLoS One* 2015;10(U407-U425

Agents: Dasatinib **Vehicle:** DMSO; saline; **Route:** IP; **Species:** Mice; **Strain:** C57BL6; **Pump:** 1004; **Duration:** 4 weeks;
ALZET Comments: Controls received mp w/ vehicle; animal info (male, C57BL6, 3 months old); 50% DMSO used; no stress (see pg. 4); cardiovascular;