References on the Administration of Metalloproteinase Inhibitors Using ALZET® Osmotic Pumps

Q8287: Z. Min*, et al.* Asymmetrical methyltransferase PRMT3 regulates human mesenchymal stem cell osteogenesis via miR-3648. Cell Death Dis 2019;10(8):581
Agents: Protein arginine methyltransferase 3 inhibitor **Vehicle:** DMSO; **Route:** SC; **Species:** Mice; **Pump:** 2002; **Duration:** 2, 4, or 6 weeks;
ALZET Comments: Dose (20 mg/kg/day); animal info (8 weeks old, C57BL/6); Multiple pumps per animal (1, 2, or 3); Protein arginine methyltransferase 3 inhibitor aka SGC707; enzyme inhibitor (Protein arginine methyltransferase 3 inhibitor); gene therapy;

Q6780: Y. Izawa-Ishizawa*, et al.* 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
Agents: Angiotensin II; B-aminopropionitrile **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 1 week; 6 weeks;
ALZET Comments: 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;

Q7584: J. D. Hill*, et al.* Activation of GPR55 induces neuroprotection of hippocampal neurogenesis and immune responses of neural stem cells following chronic, systemic inflammation. Brain, Behavior, and Immunity 2019;76(165-181
Agents: O-1602; LPS **Vehicle:** CSF, Artificial; saline; **Route:** CSF/CNS (hippocampus); SC; **Species:** Mice; **Pump:** 1002; **Duration:** 14 days;
ALZET Comments: Dose ((O-1602 4 µg/kg/day), (LPS 0.2 mg/kg/day)); O-1602 diluted in 100% EtOH before diluted in ACSF to 0.05% EtOH used; Controls received mp w/ vehicle; animal info (12-15 weeks, male and female, C57BL/6 and GPR55–/–); Multiple pumps per animal (2); O-1602 is an analog of cannabidiol and a potent GPR55 agonist. LPS (lipopolysaccharide) initiates pathological neuroinflammation; ALZET brain infusion kit 3 used; Full compound name of O-1602 is 5-Methyl-4-[(1R,6R)-3-methyl-6-(1-cyclohexen-1-yl]-1,3-benzene-diol; Therapeutic indication (LPS-induced dysregulation of hippocampal neurogenesis);

Q8033: E. Heikkila*, et al.* The plant product quinic acid activates Ca(2+) -dependent mitochondrial function and promotes insulin secretion from pancreatic beta cells. Br J Pharmacol 2019;176(17):3250-3263
Agents: Quinic acid **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** Not stated; **Duration:** 12 weeks;
ALZET Comments: Dose (75 mg/kg/day); Controls received mp w/ vehicle; animal info (12 weeks old, Male, C57BL/6N); pumps replaced every ? weeks; Multiple pumps per animal (); long-term study; Quinic acid aka QA ; dependence;

Q7431: M. Biet*, et al.* In utero exposure to nicotine abolishes the postnatal response of the cardiac sodium current to isoproterenol in newborn rabbit atrium. Heart Rhythm 2019;16(4):494-501
Agents: Nicotine **Vehicle:** Saline; **Route:** SC; **Species:** Rabbit; **Pump:** Not Stated; **Duration:** 14 days;
ALZET Comments: Dose (2 mL); Controls received mp w/ vehicle; animal info (New Zealand, female); Multiple pumps per animal (2); cardiovascular;

Q7398: M. Biet*, et al.* In utero exposure to nicotine abolishes the postnatal response of the cardiac sodium current to isoproterenol in newborn rabbit atrium. Heart Rhythm 2019;16(4):494-501
Agents: Nicotine **Vehicle:** Saline; **Route:** SC; **Species:** Rabbit; **Pump:** 2ML2; **Duration:** 14 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (New Zealand, female); Multiple pumps per animal (2); Resultant plasma level ((100 and 150 ng/mL)); cardiovascular;

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; **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, C57BLKS/J and C57BLKS/J-leprdb/leprdb); 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.); "

Q7935: T. Wada*, et al.* Impact of central and peripheral estrogen treatment on anxiety and depression phenotypes in a mouse model of postmenopausal obesity. PLoS One 2018;13(12):e0209859
Agents: Estradiol **Vehicle:** CSF, artificial; **Route:** SC; CSF/CNS (lateral ventricle); **Species:** Mice; **Pump:** 1004; **Duration:** 3 weeks;
ALZET Comments: Dose ((SC 50 µg/kg/day), (ICV 1 µg/kg/day)); Controls received mp w/ vehicle; animal info (16 weeks, female, C57BL/6); behavioral testing (Open field, Light-dark box, Tail suspension, Forced swim); Multiple pumps per animal (2 for SC group); comparison of SC mp vs ICV mp; ALZET brain infusion kit 3 used; Brain coordinates (0.3 mm posterior to the bregma, 0.9 mm lateral to the central sulcus, 2.5 mm below the skull); replacement therapy (estradiol); Therapeutic indication (mouse model of postmenopausal obesity that exhibited anxiety disorder and depression phenotypes were improved by E2 replacement.);

Q7310: S. Toyama*, et al.* Protective Effect of a Mitochondria-Targeted Peptide against the Development of Chemotherapy-Induced Peripheral Neuropathy in Mice. ACS Chemical Neuroscience 2018;9(7):1566-1571
Agents: SS-20 **Vehicle:** Saline; **Route:** SC; **Species:** SC; **Pump:** 1004; **Duration:** 3 weeks;
ALZET Comments: Dose (5 mg/kg/day, 10 mg/ kg/day); Controls received mp w/ vehicle; animal info (Male, BALB/c mice, 8 weeks old); behavioral testing (von Frey hair test, paw withdrawal); Multiple pumps per animal (2); SS-20 is a mitochondria-targeted peptide;

Q7864: J. A. Sandgren*, et al.* Arginine vasopressin infusion is sufficient to model clinical features of preeclampsia in mice. JCI Insight 2018;3(19):
Agents: arginine vasopressin; conivaptan; relcovaptan; tolvaptan **Vehicle:** Saline; DMSO; **Route:** SC; **Species:** Mice; **Pump:** 1002; 1004; 1007D; **Duration:** 1, 2 weeks;
ALZET Comments: Dose ((AVP 24 ng/h), (conivaptan 22 ng/h), (relcovaptan 22 ng/h), (tolvaptan 22 ng/h)); saline or saline with 10% DMSO used; Controls received mp w/ vehicle; Multiple pumps per animal (2 if AVP plus antagonist); conivaptan is a nonselective AVPR1A and AVPR2 antagonist. relcovaptan is an AVPR1A antagonist. tolvaptan is an AVPR2 antagonist.; AVP and tolvaptan were reconstituted in saline while relcovaptan was reconstituted in saline with 10% DMSO;

Q7259: I. G. Rajapaksha*, et al.* The small molecule drug diminazene aceturate inhibits liver injury and biliary fibrosis in mice. Sci Rep 2018;8(1):10175
Agents: Diminazene aceturate **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 2 weeks;
ALZET Comments: Dose (10mg/kg/day); animal info (6–8 weeks old, male C57BL/6 mice); functionality of mp verified by residual volume; Multiple pumps per animal (2 pumps); Diminazene aceturate aka 4-[2-(4-carbamimidoylphenyl) iminohy-drazinyl]benzenecarboximidamide;

Q7755: R. W. Holdcraft*, et al.* A model for determining an effective in vivo dose of transplanted islets based on in vitro insulin secretion. Xenotransplantation 2018;25(6):e12443
Agents: Insulin, recomb. human **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** Not Stated; **Duration:** 3-5 days;
ALZET Comments: Dose ((female 1.5-2.0 U/day), (males 3.0-4.5 U/day)); Controls consisted of rats that did not become diabetic during the initial study period; animal info (male and female, BioBreeding diabetes-prone); Multiple pumps per animal (2 if hyperglycemic state observed. see p.4); comparison of macrobead implant vs mp; diabetes; Pilot study for CGM calibration 3-5 days followed by 1 or 3 month study using microbeads. Pump models not stated but duration length was listed at 7 or 14 days;

Q7031: M. Fregosi*, et al.* Changes of motor corticobulbar projections following different lesion types affecting the central nervous system in adult macaque monkeys. European Journal of Neuroscience 2018;48(4):2050-2070

Agents: Antibody, anti-Nogo-A **Vehicle:** Not Stated; **Route:** CSF/CNS (Intrathecal), SC; **Species:** Monkey (Macaca fascicularis); **Pump:** 2ML2; **Duration:** 4 weeks;
ALZET Comments: Dose (3 mg/ml); One pump administered the treatment intrathecally to the cervical spinal cord, whereas the other pump delivered the antibody close to the lesioned site in M1 below the dura; Multiple pumps per animal (2);

Q7104: E. S. Calipari*, et al.* Granulocyte-colony stimulating factor controls neural and behavioral plasticity in response to cocaine. Nat Commun 2018;9(1):9
Agents: Antibody, anti-GCSF neutralizing antibody, Immunoglobulin G, pre-immune **Vehicle:** Saline; **Route:** CSF/CNS (nucleus accumbens); **Species:** Mice; **Pump:** 1007D; **Duration:** 7 days;
ALZET Comments: Dose (1 ug/day); animal info (Male, C57BL/6 J, 7 weeks old , 20–25 g); Multiple pumps per animal (2); Brain coordinates (From bregma: anteroposterior, +1.5; mediolateral, + 1.0; dorsoventral, −4.5); bilateral cannula used; The cannulae were permanently fixed to the skull with Loctite adhesive; dependence;

Q5909: L. Wang*, et al.* Sodium butyrate suppresses angiotensin II-induced hypertension by inhibition of renal (pro)renin receptor and intrarenal renin-angiotensin system. J Hypertens 2017;35(9):1899-1908
Agents: Angiotensin II; sodium butyrate **Vehicle:** Not Stated; **Route:** SC; Intrarenal (medulla); **Species:** Rat; **Pump:** 2002; **Duration:** 14 days;
ALZET Comments: Controls received mp w/ vehicle;animal info (male, Sprague Dawley, 250-300g); Multiple pumps per animal (2); replacement therapy (uniphrectomy); tissue perfusion (renal medulla); cardiovascular; antihypertensive; peptides; Bp measured using radio telemetry (DSI); Dose (Ang II 200 ng/kg/min; NaBu 1 ug/kg/min); good bp comparison curve (pg4);

Q6701: P. Mota*, et al.* Mp17-14 Depletion of Peripheral Serotonin Synthesis Induces Benign Prostatic Growth in Mice: More Evidence for the New "Neuroendocrine Theory" in Bph Etiology. The Journal of Urology 2017;197(4):e216-e217
Agents: Leptin **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 24 weeks;
ALZET Comments: Dose (5 mg/day; 10 mg/day); Controls received mp w/ vehicle; animal info (10-week-old male ObOb and strain-matched control mice); pumps replaced every 12 weeks; Multiple pumps per animal (2); long-term study;

Q6173: J. S. Medel-Matus*, et al.* Galanin contributes to monoaminergic dysfunction and to dependent neurobehavioral comorbidities of epilepsy. Experimental Neurology 2017;289(64-72
Agents: M40, M871, Galanin receptor antagonists **Vehicle:** Saline; **Route:** CSF/CNS (raphe nucleus); CSF/CNS (locus coeruleus);; **Species:** Rat; **Pump:** 1007D; **Duration:** 3 days;
ALZET Comments: Dose (10 nM solution of M40, 30 nM solution of M871); Controls received mp w/ vehicle; animal info (50 day old maleWistar rats); Multiple pumps per animal (2); M40 is a Galanin receptor type 1/2 antagonist; M871 is a preferential GalR2 antagonist; PlasticsOne cannula used (28 GA; length 6.5 mm for RN, 8.0 mm for LC); bilateral cannula used for LC infusion with 2 pumps; Therapeutic indication (Epilepsy);

Q6154: Y. Li*, et al.* Brain Transforming Growth Factor-beta Resists Hypertension Via Regulating Microglial Activation. Stroke 2017;48(9):2557-2564
Agents: Antibody, anti-TGF ; Angiotensin II **Vehicle:** Not Stated; **Route:** CSF/CNS (left ventricle); **Species:** Mice; **Pump:** 1002; 1004; **Duration:** 2 weeks;
ALZET Comments: Dose (TGF neutralizing antibody: 50 µg/d; Ang II: 500 ng/kg/min); animal info (8-10 week old male adult wild-type, Tg, 34Lan, and B6.129P-Cx3cr1tm1Litt/J mice); Multiple pumps per animal (second pump with angiotensin II implanted 3 or 7 days after first pump); antihypertensive; ALZET brain infusion kit 3used; Brain coordinates (0.5 mm caudal to Bregma; 1 mm lateral to the midline; 2 mm ventral to the dura); cardiovascular;

Q6460: D. A. Howatt*, et al.* Relaxin and Matrix Metalloproteinase-9 in Angiotensin II-Induced Abdominal Aortic Aneurysms. Circulation Journal 2017;81(6):888-890
Agents: Angiotensin II; Relaxin **Vehicle:** Saline; Sodium acetate; **Route:** SC; **Species:** Mice (knockout); **Pump:** 2004; 1004; 2001; 1007D; **Duration:** 28 days;
ALZET Comments: Dose (Angiotensin II: 1.4 mg/kg/day; Relaxin: 0.1, 0.3, or 0.6 mg/kg/day); Controls received mp w/ vehicle; animal info (male C57BL/6 and Apoe−/− mice); Multiple pumps per animal (2); cardiovascular;

Q6099: C. Dai*, et al.* Age-dependent human beta cell proliferation induced by glucagon-like peptide 1 and calcineurin signaling. J Clin Invest 2017;127(10):3835-3844
Agents: Exendin-4; FK506 **Vehicle:** PBS; saline; **Route:** SC; **Species:** Mice (NSG), mice (NOD); **Pump:** 1004; 1002; **Duration:** 4 weeks; 2 weeks;
ALZET Comments: Dose (exendin-4: 24 nmol/kg/d; FK506: 0.25 mg/kg/d); Controls received mp w/ vehicle; animal info (NOD.Cg-PrkdcscidIl2rgtm1WjI/Sz (NSG) mice); Multiple pumps per animal (2): some animals received a second pump containing FK506 after 2 weeks; diabetes;

Q4920: L. Zhao*, et al.* Prenatal nicotinic exposure upregulates pulmonary C-fiber NK1R expression to prolong pulmonary C-fiber-mediated apneic response. Toxicol Appl Pharmacol 2016;290(107-15
Agents: Nicotine; mecamylamine; methyllycaconitine **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat (pregnant); **Pump:** 2004; **Duration:** 28 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (female, Sprague Dawley, 250-300g); pumps replaced on GD7; Multiple pumps per animal (2); no stress (see pg. 110-111); teratology; Dose (Nicotine 6 mg/kg/day; mecamylamine 0.03 mg/kg/day; methyllycaconitine 3 mg/kg/day);

Q5113: L. Zhao*, et al.* Bronchopulmonary C-fibers' IL1RI contributes to the prolonged apneic response to intra-atrial injection of capsaicin by prenatal nicotinic exposure in rat pups. Toxicol Appl Pharmacol 2016;303(58-64
Agents: Nicotine; methyllycaconitine **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2004; **Duration:** 28 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (female, Sprague Dawley, 250-350g); pumps replaced every 28 days; Multiple pumps per animal (2); long-term study; teratology; MLA is an a7nAChR antagonist; methyllycaconitine aka MLA; Dose (nicotine 6 mg/kg/day; MLA 3 mg/kg/day);

Q5713: H. Xu*, et al.* The Role of HMGB1 in Pial Arteriole Dilating Reactivity following Subarachnoid Hemorrhage in Rats. J Vasc Res 2016;53(5-6):349-357
Agents: HMGB1; Box A; OxPAPC **Vehicle:** CSF, artificial; **Route:** CSF/CNS; **Species:** Rat; **Pump:** 1003D; **Duration:** 2 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (male, Sprague Dawley, 250-300g); Multiple pumps per animal (2); Bilateral infusion; Dose (HMGB1 120 ng/h; Box A 12-120 ng/hr; OxPAPC 20 ug/h);

Q5705: X. Wang*, et al.* Cerebral mTOR signal and pro-inflammatory cytokines in Alzheimer's disease rats. Transl Neurosci 2016;7(1):151-157
Agents: Rapamycin; amyloid protein, beta (1-42) **Vehicle:** CSF, artificial; **Route:** CSF/CNS; **Species:** Rat; **Pump:** 1002; **Duration:** 14 days;
ALZET Comments: animal info (male, Sprague Dawley, 3-4 months old, 300-350g); Multiple pumps per animal (2); neurodegenerative (Alzheimer's); behavioral testing (Y-maze); immunology; Bilateral infusion; used jewelers' screw and dental zinc cement; Dose (10 mg/kg amyloid beta, rapamycin 500 ug/2 weeks); Brain coordinates;

Q5479: D. Wagsater*, et al.* Elevated Adiponectin Levels Suppress Perivascular and Aortic Inflammation and Prevent AngII-induced Advanced Abdominal Aortic Aneurysms. Sci Rep 2016;6(31414
Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** 8 weeks;
ALZET Comments: Controls received mp w/ PBS; animal info (male, LDLR -/-, 8-10 weeks old); pumps replaced every 4 weeks; Multiple pumps per animal (2); post op. care (injection of bupivicane and carpofen); cardiovascular; peptides; bp measured using tail cuff; Dose (1.5 ug/kg/min);

Q6057: J. Planaguma*, et al.* Ephrin-B2 prevents N-methyl-D-aspartate receptor antibody effects on memory and neuroplasticity. Annals of Neurology 2016;80(3):388-400
Agents: Ephrin-B2, **Vehicle:** CSF, patient; **Route:** CSF/CNS (ventricle); **Species:** Mice; **Pump:** 1002; **Duration:** 14 days;
ALZET Comments: animal info (8-10 weeks old, 25-30 g; C57BL/6J); behavioral testing (novel object recognition, tail suspension, forced swim test); The CSF infused was pooled from patient' samples; Multiple pumps per animal (2); Therapeutic indication (Memory, neuroplasticity);

Q6687: C. Li*, et al.* Activated Transcription Factor 3 in Association with Histone Deacetylase 6 Negatively Regulates MicroRNA 199a2 Transcription by Chromatin Remodeling and Reduces Endothelin-1 Expression. Mol Cell Biol 2016;36(22):2838-2854
Agents: Tubacin; Niltubacin **Vehicle:** DMSO; PBS; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** 30 days;
ALZET Comments: Dose (0.0083 mg/day); 50% DMSO, 50% PBS used; animal info (4-6 month old Berkeley sickle mice); Multiple pumps per animal (2); enzyme inhibitor (HDAC6);

Q5551: E. D. Levin*, et al.* Reduction of nicotine self-administration by chronic nicotine infusion with H1 histamine blockade in female rats. Psychopharmacology (Berl) 2016;233(15-16):3009-15
Agents: Nicotine ditartrate, pyrilamine **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2ML2, 2ML4; **Duration:** 2 weeks,;
ALZET Comments: Controls received mp w/ vehicle; Multiple pumps per animal (2); animal info (Young adult female Sprague-Dawley rats, 8 weeks old); Nicotine dependence; Chronic nicotine infusion via sc implanted osmotic minipumps is functionally similar to the zero order kinetic of steady nicotine infusion achieved by nicotine skin patches; Therapeutic indication (Nicotine dependency); Dose (Nicotine administered for 4 weeks with 2ML4 at 2.5, 5 mg/kg/day, Pyrilamine administered for 2 weeks with 2ML2 at 25 mg/kg/day);

Q5548: 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 (knockout); **Pump:** 1002; **Duration:** 4 weeks;
ALZET Comments: Controls received mp w/ vehicle; animal info (13 weeks old); pumps replaced every 2 weeks; Multiple pumps per animal (2); one for either Ang II, GLP-1 or GIP; enzyme inhibitor (Dipeptidyl Peptidase-4 inhibitor); Therapeutic indication (Abdominal aortic aneurysm); Dose (Angiotensin II: 2000 ng/kg/min, Angiotensin II + GIP: 25 nmol/kg/day, DPP-41: 6 mg/kg/day);

Q6049: H. D. Kim*, et al.* SIRT1 Mediates Depression-Like Behaviors in the Nucleus Accumbens. J Neurosci 2016;36(32):8441-52
Agents: Resveratrol; EX-527 **Vehicle:** DMSO; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 14 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (7-9 weeks; C57BL/6J); Multiple pumps per animal (2); behavioral testing (open field, elevated-plus maze, forced swim test, sucrose preference test); Plastics One guide cannula used; bilateral cannulae (one pump for each pedestal); Loctite adhesive used; EX-527 is a SIRT1 antagonist; Therapeutic indication (Depression); Dose (0.1 or 0.2 ug/day, EX-527: 0.5 or 1.0 ug/day);

Q5654: B. A. Kemp*, et al.* AT2 Receptor Activation Prevents Sodium Retention and Reduces Blood Pressure in Angiotensin II-Dependent Hypertension. Circulation Research 2016;119(4):532-43
Agents: Dextrose, C21, PD-123319, Angiotensin II **Vehicle:** Water; **Route:** SC; **Species:** Rat; **Pump:** 1007D, 2001; **Duration:** 1 week;
ALZET Comments: Controls received mp w/ vehicle; animal info (12 weeks); good methods (p. 546); Multiple pumps per animal (2); Multiple pumps per animal (2); Intrarenal infusion; Therapeutic indication (Hypertension); Dose (C21: 60ng/kg/min, PD-123319: 10 ng/kg/min, Dextrose/AngII: 200 ng/kg/min);

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; **Pump:** 2004; **Duration:** 4 weeks;
ALZET Comments: animal info (Male Sprague-Dawley 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);

Q4899: y. B. S. H. H.-W. WANG, y A. CHEN, M. AHMAD*,, et al.* ROLE OF BRAIN ALDOSTERONE AND MINERALOCORTICOID RECEPTORS IN ALDOSTERONE-SALT HYPERTENSION IN RATS. Neuroscience 2016;314(90-105
Agents: Aldosterone; eplerenone; FAD286 **Vehicle:** CSF, artificial; acetonitrile; **Route:** SC; CSF/CNS; **Species:** Rat; **Pump:** 2004; **Duration:** 2 weeks, 3 weeks;

ALZET Comments: Controls received mp w/ vehicle; animal info (male, Wistar, 200-250g); 4% acetonitrile used; Multiple pumps per animal; cardiovascular; bp measured using radiotelemetry; bp measured using radiotelemetry; dose (1.5 and 7.5 ug/kg/hr Aldosterone, 5ug/day Eplerenone, 25 ug/day FAD286)

Q6094: L. Deng*, et al.* Prophylactic treatment with the tricyclic antidepressant desipramine prevents development of paclitaxel-induced neuropathic pain through activation of endogenous analgesic systems. Pharmacol Res 2016;114(75-89
Agents: Desipramine, naloxone, AM251, AM630 **Vehicle:** Water, saline, PEG 400, DMSO; **Route:** SC; **Species:** Rat; **Pump:** 2ML4; **Duration:** 28 days;
ALZET Comments: Dose: Desipramine (10 mg/kg/d), Naloxone (12 mg/kg/d), AM251 (3 mg/kg/d), AM630 (3 mg/kg/day); Desipramine dissolved distilled water, naloxone dissolved in saline, AM251 and AM630 dissolved in 50% PEG400 and 50% DMSO; Controls received mp w/ vehicle; animal info (Sprague-Dawley rats weighing 275–350 g); Multiple pumps per animal (2 when given the treatment of 2 different agents), Desipramine,vehicle, and all antagonists were delivered in separate osmotic pumps;

Q5750: M. L. Bertolaccini*, et al.* Complement inhibition by hydroxychloroquine prevents placental and fetal brain abnormalities in antiphospholipid syndrome. J Autoimmun 2016;75(30-38
Agents: Antibody, beta-2-glycoprotein, hydroxychloroquine **Vehicle:** Water, distilled; **Route:** Not Stated; **Species:** mice (pregnant); **Pump:** 1002; **Duration:** Not Stated;
ALZET Comments: animal info (Age 2-3 months old; pump inserted day 8 of pregnancy); Multiple pumps per animal (2); A group of pregnant mice received hydroxychloroquine administered by a second microosmotic pump (Alzet model 1002) on day 8 of pregnancy.; peptides; “Administration through microosmotic pumps ensures
constant antibody concentrations are maintained throughout pregnancy to closely resemble the clinical condition.” Pg 32 ; Therapeutic indication (Pregnancy, antiphospholipid syndrome); Dose (200 ug/mouse/day);

Q5322: M. Bazargan*, et al.* Limited fetal metabolism of rosiglitazone: Elimination via the maternal compartment in the pregnant ewe. Reprod Toxicol 2016;61(162-8
Agents: Rosiglitazone Maleate **Vehicle:** Water, Ethanol; **Route:** SC; **Species:** Sheep (pregnant); **Pump:** 2ML1; **Duration:** 16 days;
ALZET Comments: animal info (Singleton pregnant sheep); functionality of mp verified by plasma level, amniotix fluid samples; 15% ethanol used; Multiple pumps per animal (4); stability verified by regular plasma level measurements (reached after day 5, tested through day 16; half life of 24-48 hours in sheep); Catheters flushed with heparinized saline; Dose (2.7 mg/fetus/d);