Recent References (2016-2018) Where ALZET® Osmotic Pump Functionality Was Documented

Q6989: Y. P. Zhang*, et al.* Mifepristone attenuates depression-like changes induced by chronic central administration of interleukin-1beta in rats. Behav Brain Res 2018;347(436-445
ALZET Comments: Interleukin-1 beta; Saline; CSF/CNS (lateral ventricle); Rat; 1002; 14 days; Dose (10 ng/7uL/rat/day); animal info (Male Sprague Dawley rats (220–260 g)); behavioral testing (open field, elevated plus maze and sucrose preferencet); functionality of mp verified by residual volume; ALZET brain infusion kit used; Brain coordinates (AP=−1 mm, ML=+1.4 mm, DV=−1 mm.); Cannula placement verified via sectioning the brains coronally;.

Q7160: Y. W. Yu*, et al.* Glucose-Dependent Insulinotropic Polypeptide Mitigates 6-OHDA-Induced Behavioral Impairments in Parkinsonian Rats. Int J Mol Sci 2018;19(4):
ALZET Comments: Glucose-dependent insulinotropic polypeptide; Saline; SC; Rat; 2002; 2 weeks; Dose (7.8 or 15 nmol/kg/day); Controls received mp w/ vehicle; behavioral testing (Open field test); functionality of mp verified by plasma levels; Resultant plasma level (GIP administration at 15 nmol/kg/day resulted in total GIP plasma levels of 203.9 pmol/L); neurodegenerative (Parkinson's);.

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
ALZET Comments: Diminazene aceturate; SC; Mice; 2 weeks; 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;.

Q6958: C. L. Montgomery*, et al.* Mechanisms Underlying Early-Stage Changes in Visual Performance and Retina Function After Experimental Induction of Sustained Dyslipidemia. Neurochem Res 2018;43(8):1500-1510
ALZET Comments: Poloxamer 407; Saline; SC; IP; Mice; 2004; 1 month; Controls received mp w/ vehicle; animal info (C57BL/6Crl mice); IP delivery via a cannula connected to SC pump; functionality of mp verified by total cholesterol and true triglyceride plasma concentrations; "To more easily maintain a sustained atherogenic plasma lipid profile without the increased stress and risk of animal loss associated with repeated intraperitoneal injections, we employed implantable osmotic pumps to continuously deliver P-407 at a defined rate to mice for 1 month. " pg. 1502; Therapeutic indication (Diabetic retinopathy);.

Q7011: Koduru SV*, et al.* The contribution of cross-talk between the cell-surface proteins CD36 and CD47-TSP-1 in osteoclast formation and function. The Journal of Biological Chemistry 2018;293(39):15055-15069
ALZET Comments: Parathyroid hormone (1-34), human; Acetic acid; mouse serum; SC; Mice; 5 days; Dose (0.67 pmol/g of body weight/h); 10 mM acetic acid containing 2% heat inactivated mouse serum used; Controls received mp w/ vehicle; functionality of mp verified by hypercalcemia;.

Q7019: R. M. Jha*, et al.* Glibenclamide Produces Region-Dependent Effects on Cerebral Edema in a Combined Injury Model of Traumatic Brain Injury and Hemorrhagic Shock in Mice. J Neurotrauma 2018;35(17):2125-2135
ALZET Comments: Glibenclamide; Saline, DMSO; SC; Mice; 1, 3, or 4 days; Dose (0.4 ug/h); animal info (C57/BL6 male mice, 12–15 weeks of age, weighing 25–30 g); functionality of mp verified by glibenclamide levels by ultra performance liquid chromatography-mass spectrometer; Therapeutic indication (traumatic brain injury);.

Q7022: T. R. Harris*, et al.* Celecoxib Does Not Protect against Fibrosis and Inflammation in a Carbon Tetrachloride-Induced Model of Liver Injury. Mol Pharmacol 2018;94(2):834-841
ALZET Comments: Celecoxib, PTUPB; PEG400, DMSO; SC; Mice; 2006; 45 days; Dose (10mg/kg/d); 50% PEG400 and 50% DMSO used; animal info (Male C57BL/6NCrl mice (~25 g)); functionality of mp verified by plasma levels; celecoxib is a cyclooxygenase-2 (COX-2) selective inhibito; enzyme inhibitor (cyclooxygenase-2, soluble epoxide hydrolase);.

Q7023: W. Q. Han*, et al.* Membrane rafts-redox signalling pathway contributes to renal fibrosis via modulation of the renal tubular epithelial-mesenchymal transition. J Physiol 2018;596(16):3603-3616

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

Q7128: L. Detti*, et al.* Xenotransplantation of pre-pubertal ovarian cortex and prevention of follicle depletion with anti-Mullerian hormone (AMH). J Assist Reprod Genet 2018;35(10):1831-1841
ALZET Comments: anti-Müllerian hormone, recomb.; Saline; IP; Mice (nude); 1002; 2 weeks; Dose (1.23 ug/d); Controls received mp w/ vehicle; animal info (10-week-old NU/J mice, or nude mice,); functionality of mp verified by residual volume;.

Q7127: Z. Dargaei*, et al.* Restoring GABAergic inhibition rescues memory deficits in a Huntington's disease mouse model. Proc Natl Acad Sci U S A 2018;115(7):E1618-E1626
ALZET Comments: Bumetanide; DMSO, ethanol, saline; CSF/CNS (lateral ventricle); Mice; 1002; 2 weeks; Dose (6 mg/mL); 50% DMSO and 15% ethanol used; Controls received mp w/ vehicle; animal info (Males, females, R6/2); behavioral testing (Novel object recognition test, Novel object location
test); functionality of mp verified by (incorrectly) weighing the pump; functionality of mp verified by (incorrectly) weighing the pump; Cannula placement and patency were confirmed by injection of luxol fast green dye followed by dissection of the brain while; neurodegenerative (Huntington's disease); Bumetanide was administered directly to the lateral ventricle since previous studies reported that brain penetration may not be optimal following systemic administration due to its pharmacokinetic properties;.

Q6939: A. J. Charboneau*, et al.* Fucoidans inhibit the formation of post-operative abdominal adhesions in a rat model. PLoS One 2018;13(11):e0207797
ALZET Comments: Sigma Fucoidan Crude; Water; IP; Rat; 2ML1; 1 week; Dose (4.3 mg/day, 8.3 mg/day, and 17.2 mg/day); animal info (female Sprague-Dawley rats); functionality of mp verified by compressing the outer casing with pliers and then reweighing the pump; good methods (pg 3); Pump was implanted SC with catheter into abdominal cavity;.

Q5940: Y. Zou*, et al.* Prenatal levonorgestrel exposure induces autism-like behavior in offspring through ERbeta suppression in the amygdala. Mol Autism 2017;8(46
ALZET Comments: Lentivirus, ER beta; CSF, artificial; CSF/CNS (amygdala); Rat; 2002; 2 weeks; Controls received mp w/ empty lentivirus; animal info (male, Sprague Dawley, 8 weeks old); functionality of mp verified by India ink injection; behavioral testing (marbles burying test, social interaction, elevated plus maze, open-field test); gene therapy; Used Plastics One cannula;.

Q5727: Y. Zhu*, et al.* Protective Effect of 17beta-Estradiol Upon Hippocampal Spine Density and Cognitive Function in an Animal Model of Vascular Dementia. Sci Rep 2017;7(42660
ALZET Comments: Estradiol, 17b-; SC; Rat; 2006; Controls received mp w/ 20% cyclodextrin; animal info (male, Sprague Dawley, 250-300g, adult); functionality of mp verified by serum levels; behavioral testing (Morris water maze); replacement therapy (estradiol infusion); long-term study; cardiovascular; Dose (0.05 ug/h); "exogenous E2 replacement produced E2 levels of 25-33pg/ml" (pg 2);.

Q5692: H. Z. Toklu*, et al.* Intracerebroventricular tempol administration in older rats reduces oxidative stress in the hypothalamus but does not change STAT3 signalling or SIRT1/AMPK pathway. Appl Physiol Nutr Metab 2017;42(1):59-67
ALZET Comments: Tempol; CSF, artificial; CSF/CNS; Rat; 3 weeks; Controls received mp w/ vehicle; animal info (male, Fischer 344 x Brown Norway, 3 months or 23 months old); functionality of mp verified by ; Vehicle pumps replaced after one week; Dose (300 ug/h);.

Q5997: K. M. Thrailkill*, et al.* The impact of SGLT2 inhibitors, compared with insulin, on diabetic bone disease in a mouse model of type 1 diabetes. Bone 2017;94(141-151
ALZET Comments: Insulin (Humulin R); SC; Mice; 9 weeks; Controls were untreated diabetic mice; animal info (12 weeks); functionality of mp verified by insulin serum levels using a mouse ultrasensitive insulin ELISA; Does not indicate replacement; diabetes; 145Therapeutic indication (Diabetes); Dose (0.125 units/day);.

Q6181: R. Simeoli*, et al.* Exosomal cargo including microRNA regulates sensory neuron to macrophage communication after nerve trauma. Nat Commun 2017;8(1):1778
ALZET Comments: miR-21-5p antagomir; in vivo transfection reagent; SC; CSF/CNS (intrathecal); Mice; 1007D; 7 days; Dose (12 pmol/day); Controls received mp w/ vehicle and scrambled oligomer; functionality of mp verified (Catheter and pump were checked at the end of treatment to ascertain efficient delivery) ; spinal cord injury;.

Q6180: A. Sike*, et al.* Improved method for cannula fixation for long-term intracerebral brain infusion. J Neurosci Methods 2017;290(145-150
ALZET Comments: Black Ink; PBS; CSF/CNS (ventricle); Mice; 2006; 50 days; Dose (PBS with 1:100 black ink); animal info (50-day old male C57BL/6J mice); functionality of mp verified by in vitro priming visualization; ALZET brain infusion kit 3 used; cyanoacrylate adhesive; no stress: The implanted pump and the cannula caused minimal discomfort to the animals and it had no effect on the moving ability (see pg.5); good methods; This report describes an improved method for better fixation of cannula during long-term brain infusion experiments using a non-toxic, soft and elastic silicone spacer.

Q6124: B. M. Seitz*, et al.* 5-HT causes splanchnic venodilation. Am J Physiol Heart Circ Physiol 2017;313(3):H676-H686
ALZET Comments: Hydroxytryptamine, 5-; Saline, ascorbate (1%),; SC; Rat; 2ML1; 7 days; Dose (25 µg•kg/min); Controls received mp w/ vehicle; animal info (Male Sprague-Dawley rats); functionality of mp (incorrectly) verified by weighing before and after the experiment (Contact Durect Tech Support for correct measure of functionality); Serotonin [5-hydroxytryptamine] aka 5-HT; “Pumps were weighed before and after the experiments as a validation of pump function.”.

Q5970: J. M. Resch*, et al.* Aldosterone-Sensing Neurons in the NTS Exhibit State-Dependent Pacemaker Activity and Drive Sodium Appetite via Synergy with Angiotensin II Signaling. Neuron 2017;96(1):190-206 e7
ALZET Comments: Aldosterone; Ethanol; IP; Mice; 1002; 8-12 days; Controls received mp w/ vehicle; animal info (4-5 week old); functionality of mp verified by plasma aldosterone levels; 5% ethanol used; Dose (900 ug/mL);.

Q6189: G. M. Orlowski*, et al.* Frontline Science: Multiple cathepsins promote inflammasome-independent, particle-induced cell death during NLRP3-dependent IL-1beta activation. J Leukoc Biol 2017;102(1):7-17
ALZET Comments: K777; PEG-300; glycofurol; cremophor ELP; ethanol; propylene glycol; SC; Mice; 2001; 1 week; Dose (125 mg/kg); 25% PEG-300, 25% glycofurol, 25% cremophor ELP, 15% ethanol, 10% propylene glycol; Controls received mp w/ vehicle; functionality of mp verified by K777 plasma levels; Resultant plasma level (0.75 uM); K777 is a cathepsin inhibitor;.

Q6346: J. Nissinen*, et al.* Disease-modifying effect of atipamezole in a model of post-traumatic epilepsy. Epilepsy Res 2017;136(18-34
ALZET Comments: Atipamezole; SC; Rat; 2ML1; 2ML4; 9 weeks; Dose (100 µg /kg/h); Controls received mp w/ vehicle; animal info (12 week old male Sprague-Dawley rats); behavioral testing (neuroscore, beam-walking tests, Morris water-maze, spatial learning and memory test); functionality of mp verified by measuring the volume of the remaning solution after pump removal ; Therapeutic indication (traumatic brain injury);.

Q6363: J. Lukas*, et al.* Glucosylsphingosine Causes Hematological and Visceral Changes in Mice-Evidence for a Pathophysiological Role in Gaucher Disease. Int J Mol Sci 2017;18(10):
ALZET Comments: Glucosylsphingosine; DMSO; Propylene glycol; SC; Mice; 1004; 12 weeks; Dose (10 mg/kg/day); 50% DMSO:50% propylene glycol used; Controls received mp w/ vehicle; animal info (Male C57BL/6JRj mice); functionality of mp verified by plasma levels; pumps replaced every 4 weeks; long-term study (12 weeks); Resultant plasma level (between 700 and 900 ng/mL); no stress: The pumps were well tolerated and no mortalities were observed (see pg. 11); good methods (p.10); Lyso-Gb1 levels were strongly elevated after four, eight and 12 weeks (levels ranging between 700 and 900 ng/mL). This represented a >500-fold increase compared with vehicle-treated mice.

Q6143: S. Laouafa*, et al.* Estradiol Protects Against Cardiorespiratory Dysfunctions and Oxidative Stress in Intermittent Hypoxia. Sleep 2017;40(8):
ALZET Comments: Estradiol; SC; Rat; 2ML4; 28 days; Dose (0.5 mg/kg/d); Controls received mp w/ vehicle; animal info (Sprague-Dawley female rats weighing 230–250 g); post op. care (3.5 mg/kg bupevacaïne and 7 mg/kg lidocaine SC

injections for 48 hours after); functionality of mp verified by measuring residual volume at the end of the study; replacement therapy (estradiol);.

Q5050: E. M. R. Lake*, et al.* Modulation of the peri-infarct neurogliovascular function by delayed COX-1 inhibition. J Magn Reson Imaging 2017;46(2):505-517
ALZET Comments: FR122047; Saline; CSF/CNS (ventricle); Rat; 2ML2; 12 days; Dose (400 ug/kg/day); Controls received mp w/ vehicle; animal info (male Sprague-Dawley rats weighing 297 + 23 g); post op. care (0.2 mg/kg lidocaine sc); functionality of mp (incorrectly) verified by weighing pumps before and after; enzyme inhibitor (Cyclooxygenase-1); Brain coordinates (2-mm posterior of lambda and 2-mm right of the midline); stress/adverse reaction: (see pg.);.

Q5840: Y. Kawata*, et al.* A novel and selective melanin-concentrating hormone receptor 1 antagonist ameliorates obesity and hepatic steatosis in diet-induced obese rodent models. Eur J Pharmacol 2017;796(45-53
ALZET Comments: Melanin-concentrating hormone; Water, distilled; CSF/CNS (lateral ventricle); Mice; 1002; 2 weeks, 14 days; Controls received mp w/ vehicle; animal info (11 weeks-14 weeks); functionality of mp verified by measuring blood plasma parameters; Therapeutic indication (Obesity, non-alcoholic fatty liver disease); Dose (2.5 µg/mouse/day);.

Q5049: G. Karpel-Massler*, et al.* Induction of synthetic lethality in IDH1-mutated gliomas through inhibition of Bcl-xL. Nat Commun 2017;8(1):1067
ALZET Comments: hydroxyglutarate, 2-R-2-; CSF/CNS; Mice; 7 days; Dose (10mM); functionality of mp verified by adding 1% Gadolinium to the pumps and performing MRIs after removal;.

Q5842: M. Kano. AMH/MIS as a contraceptive that protects the ovarian reserve during chemotherapy. Proceedings of the National Academy of Sciences 2017;114(9):E1688-E1697
ALZET Comments: Mullerian inhibiting substance, recombinant human; Saline; IP; Mice; 1007D; 15 days; Controls received mp w/ vehicleanimal info (6-7 weeks old) ; functionality of mp verified by rhMIS activity; pumps replaced every 5 or 7 days; cancer;
half-life is ~ 4 hours (p. E1689); post op. care (carprofen analgesic (2.5 mg/mL) by oral gavage (100 µL)); stability verified by bioassay ("rhMIS activity was remarkably stable, with the material recovered from pumps that had been implanted in mice for 1 wk conserving full biological activity in the rat urogenital ridge bioassay"); "To test the efficacy of rhMIS protein for the preservation of
ovarian reserve, we elected to use osmotic pumps implanted i.p. in C57BL/6N female mice to allow very precise delivery of MIS" pg. E1691; Therapeutic indication (Oncofertility, cancer); Dose (1200 ug/mL);.

Q5745: K. Gong*, et al.* Sustained Morphine Administration Induces TRPM8-Dependent Cold Hyperalgesia. J Pain 2017;18(2):212-221
ALZET Comments: Morphine; Saline; SC; Rat, Mice; 2ML1, 1007D; 7 days; Controls received mp w/ vehicle; animal info (180-200 g) ; functionality of mp verified by residual volume; behavioral testing (Cold plate assay); Therapeutic indication (Analgesic, Opioid); Dose (15 mg/mL);.

Q6029: A. Dey*, et al.* Glucocorticoid-mediated activation of GSK3beta promotes tau phosphorylation and impairs memory in type 2 diabetes. Neurobiol Aging 2017;57(75-83
ALZET Comments: Corticosterone; 2-hydroxypropyl-B-cyclodextrin; TDZD-8TDZD-8,; Saline; CSF/CNS (hippocampus); Mice; 2 weeks; animal info (5 weeks); functionality of mp verified by ELISA; bilateral cannula; behavioral testing (Y-maze, novel object preference task); TDZD-8 is a non-ATP-competitive selective inhibitor of GSK3b; Dose (2 uM/day);.

Q5325: L. M. Burrell*, et al.* Adverse cardiac effects of exogenous angiotensin 1-7 in rats with subtotal nephrectomy are prevented by ACE inhibition. PLoS One 2017;12(2):e0171975
ALZET Comments: Angiotensin 1-7; Saline; SC; Rat; 2002; Sham operated controls received mp w/ vehicle; animal info (Sprague Dawley rats weighing 200-250g); functionality of mp verified by plasma levels, residual volume and Ang 1-7 concentration in residual volume; no stress (see pg. 2/12); animals were monitored daily for the length of the experiment. No adverse events were observed; cardiovascular; Dose (24 µg/kg/h);.

Q6111: S. M. Brown*, et al.* Dipeptidyl Peptidase-4 Inhibition With Saxagliptin Ameliorates Angiotensin II-Induced Cardiac Diastolic Dysfunction in Male Mice. Endocrinology 2017;158(10):3592-3604
ALZET Comments: Angiotensin II; Saline; SC; Mice; 1004; 3 weeks; Dose (500 ng/kg/min); Controls received mp w/ vehicle; animal info (13 week old C57BL/6J mice); functionality of mp verified by plasma aldosterone levels, which were quantified by radioimmunoassay as an indication of Ang II minipump efficacy.;.

Q6319: B. E. Beck-Broichsitter*, et al.* Endocultivation: continuous application of rhBMP-2 via mini-osmotic pumps to induce bone formation at extraskeletal sites. Int J Oral Maxillofac Surg 2017;46(5):655-661
ALZET Comments: Bone morphogenetic protein 2, human recomb.; Intramuscular (latissimus dorsi); Rat; 2004; 1, 2, or 4 weeks; Dose (200 mg); animal info (female Lewis rats); functionality of mp verified by new bone formation; recombinant human bone morphogenetic protein 2 aka rhBMP-2; "As no bone formation was found in the control group receiving no rhBMP-2, the existence of new bone formation in every group with an implanted osmotic mini-pump may be interpreted as a proof of principle for this method, therefore supporting the already published principle of the mini-osmotic pumps. " pg.660 ; Graphical representation of surgical procedure for scaffold implantation into the latissimus dorsi muscle (Fig 1; p, 656).

Q4111: N. Agarwal*, et al.* HIV-1 viral protein R (Vpr) induces fatty liver in mice via LXRalpha and PPARalpha dysregulation: implications for HIV-specific pathogenesis of NAFLD. Sci Rep 2017;7(1):13362
ALZET Comments: HIV-1 viral protein R, synthetic; Water, sterile; SC; Mice; 1002; 14 days; Dose (5 µg/day); Controls received mp w/ vehicle; functionality of mp verified by plasma levels; "Subcutaneous delivery of sVpr results in sustained, high Vpr concentrations in the plasma (median 839.2 pg/ml, range 381.9–983.3 pg/ml)." pg. 11;.

Q5870: L. Adrian*, et al.* AMPK Prevents Palmitic Acid-Induced Apoptosis and Lipid Accumulation in Cardiomyocytes. Lipids 2017;52(9):737-750
ALZET Comments: Fatty acids, Palmitoleic acid, Myristic acid, Palmitic acid; SC; Mice; 2001; 7 days; functionality of mp verified by rise in plasma levels; Therapeutic indication (Cardiac hypertrophy);
Resultant plasma level (Fig.1, p. 740);.

Q5107: M. Zenitani*, et al.* C-type natriuretic peptide in combination with sildenafil attenuates proliferation of rhabdomyosarcoma cells. Cancer Med 2016;5(5):795-805
ALZET Comments: C-type natriuretic peptide; SC; Mice (nude); 1003D; 3 days; 4 weeks; Controls received mp w/ vehicle; animal info (male, C57BL6 or BALB/c nu/ny, 5 weeks old); functionality of mp verified by plasma levels (figure 4B); cancer (rhabdomyosarcoma RD-GC-B); xenograft model; Dose (2.5 ug/kg/min); Resultant plasma level (~600 pmol/L; see figure 4B);.

Q5505: Y. W. Yu*, et al.* Glucose-Dependent Insulinotropic Polypeptide Ameliorates Mild Traumatic Brain Injury-Induced Cognitive and Sensorimotor Deficits and Neuroinflammation in Rats. J Neurotrauma 2016;33(22):2044-2054
ALZET Comments: Glucose-dependent insulinotropic polypeptide; Saline; SC; Rat; 7 days; 2 weeks; Controls received mp w/ vehicle; animal info (male, Sprague Dawley, 250-300g, adult); functionality of mp verified by plasma levels (pg 2049); behavioral testing (Morris water maze; recognition memory test; beam walking test; novel object recognition); peptides; traumatic brain injury; Dose (21.58 or 38.85 ug/kg/day); Resultant plasma level (58.6 +/- 11.8 pmol/L);.

Q5296: Z. Yin*, et al.* Aspirin Attenuates Angiotensin II-induced Cardiomyocyte Hypertrophy by Inhibiting the Ca(2+)/Calcineurin-NFAT Signaling Pathway. Cardiovasc Ther 2016;34(1):21-9
ALZET Comments: Angiotensin II; Saline; SC; mice; 1007D; 7 days; Controls received no treatment and pre-treatment with aspirin; animal info (Eight-week-old male kunming mice (23–27 g); functionality of mp verified by heart tissue samples; cardiovascular; peptides; Model of cardiac hypertrophy; Dose (1 mg/kg/day);.

Q4902: C. Weber*, et al.* Macrophage Infiltration and Alternative
Activation during Wound Healing Promote
MEK1-Induced Skin Carcinogenesis. Cancer Res 2016;76(4):805-817

ALZET Comments: arginine, N(omega)-hydroxy-nor-l; SC; Mice; 1004; 33 days; animal info (InvEE); functionality of mp verified by plasma levels; stress/adverse reaction: (see pg. 811); stability verified by (10 days see pg 811); immunology; "Continuous dosing at a rate of 0.25 mL per hour ensured constant compound levels. Successful ARG1 inhibition was confirmed in blood plasma and wounded skin samples taken 5 days after implantation" pg 811; nor-NOHA aka N(omega)-hydroxy-nor-l-arginine;.

Q5084: B. Wang*, et al.* Berberine Improved Aldo-Induced Podocyte Injury via Inhibiting Oxidative Stress and Endoplasmic Reticulum Stress Pathways both In Vivo and In Vitro. Cell Physiol Biochem 2016;39(1):217-28
ALZET Comments: Aldosterone; SC; Rat; 2004; 4 weeks; Controls received no mp; animal info (male, Sprague Dawley, 5-6 weeks old, 260-290g); functionality of mp verified by measuring urinary aldosterone levels (pg 220); cardiovascular; bp measured using tail cuff; Dose (0.75 ug/hr);.

Q5079: S. Uchida*, et al.* Sympathetic regulation of ovarian functions under chronic estradiol treatment in rats. Auton Neurosci 2016;197(19-24
ALZET Comments: Estradiol, 17B-; SC; Rat; 2004; 28 days; Controls received mp w/ saline; animal info (female, Wistar, 5-6 months old); functionality of mp verified by estrogen-mediated phenomena (cutaneous infusion of 17β-estradiol (5 µg/day) for 4 weeks demonstrated the well-known estrogen-mediated phenomena of acyclic conditions and uterine hypertrophy… This indicates that estradiol was definitely administered to our study rats) pg 23; Dose (5 ug/day);.

Q5081: A. E. Tschiffely*, et al.* A comparative evaluation of treatments with 17beta-estradiol and its brain-selective prodrug in a double-transgenic mouse model of Alzheimer's disease. Horm Behav 2016;83(39-44
ALZET Comments: DHED; estradiol, 17B-; Propylene glycol; SC; Mice (transgenic); 2004; 8 weeks; Controls received mp w/ vehicle; animal info (female, APPswe/PS1dE9, 6 months old); functionality of mp verified by plasma levels (see figure S1 - E2 only; no assay for DHED); pumps replaced every 4 weeks; neurodegenerative (Alzheimer's); replacement therapy (estradiol infusion); DHED aka 10β,17β-dihydroxyestra-1,4-dien-3-one; Dose (2 ug/day); Industry authored (AgyPharma LLC);.

Q5073: V. Tiyerili*, et al.* Anti-atherosclerotic effects of serelaxin in apolipoprotein E-deficient mice. Atherosclerosis 2016;251(430-7
ALZET Comments: Serelaxin; Sodium acetate; SC; Mice; 2006; 4 weeks; Controls received mp w/ vehicle; animal info (female, ApoE -/-, 6-8 weeks old); functionality of mp verified by plasma levels; functionality of mp verified by plasma levels; cardiovascular; peptides; bp measured using tail cuff; Dose (0.05 or 0,1 ug/h);.

Q4893: B. W.-R. Shruthi Vaidhyanathan, Daniel J. Ma, Karen E. Parrish*,, et al.* Factors Influencing the Central Nervous System Distribution of a
Novel Phosphoinositide 3-Kinase/Mammalian Target of
Rapamycin Inhibitor GSK2126458: Implications for Overcoming
Resistance with Combination Therapy for Melanoma
Brain Metastases. The Journal of Pharmacology and Experimental Therapeutics 2016;356(251-259
ALZET Comments: GSK2126458; trametinib, dabrafenib; DMSO; IP; Mice; 48 hours; animal info (WT, Mdr1a/b -/-, Bcrp1 -/-); functionality of mp verified by plasma concentration; pumps primed overnight in 37C saline;.

Q5269: D. Shimura*, et al.* Heterozygous deletion of sarcolipin maintains normal cardiac function. Am J Physiol Heart Circ Physiol 2016;310(1):H92-103
ALZET Comments: Isoproterenol; Saline; SC; Mice; 1002; 2 weeks; Controls received mp w/ vehicle; animal info (SLN mutants, male and female; 3-6 months old); functionality of mp verified by ECG (echocardiography); cardiovascular; antihypertensive; Isoflurane used; Dose (30 ug/g/day);.

Q4878: T. K. Rudolph*, et al.* Nitrated fatty acids suppress angiotensin II-mediated fibrotic remodelling and atrial fibrillation. Cardiovascular Research 2016;109(174-184
ALZET Comments: Nitro-octadec-9-enoic acid, 10-; angiotensin II; PEG; ethanol; SC; Mice; 2 weeks; Controls received mp w/ vehicle; animal info (C57Bl6J); functionality of mp verified by plasma levels; 90% PEG used; 10% ethanol used; cardiovascular; peptides; Dose (Nitro-octadec-9-enoic acid, 10- 6 mg/kg; angiotensin II 1.5 ng/g/min);.

Q5349: R. J. Roth Flach*, et al.* Protein Kinase Mitogen-activated Protein Kinase Kinase Kinase Kinase 4 (MAP4K4) Promotes Obesity-induced Hyperinsulinemia. J Biol Chem 2016;291(31):16221-30
ALZET Comments: S961 peptide; DMSO, PBS; SC; mice; 2001; 1 week; Controls received mp w/ vehicle; animal info (Map4k4 Flox/Flox-UBC-cre ERT2 mice); functionality of mp verified by insulin plasma levels; 5% DMSO used; dose-response (pg. 16224); Hyperinsulinemia study; S961 is an insulin receptor antagonist; Dose (10 nmol);.

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
ALZET Comments: Resistin, V1-2, epsilon; Saline; SC; Mice; 2004; Dose: resistin (1 µg/day), εV1-2 (3 mg/kg/day) ; Controls received mp w/ vehicle; animal info (6–8 week old male ApoE−/− mice on C57BL/6 background); 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.”.

Q5177: P. A. Pereira*, et al.* Effects of chronic alcohol consumption, withdrawal and nerve growth factor on neuropeptide Y expression and cholinergic innervation of the rat dentate hilus. Neurotoxicology 2016;54(153-60
ALZET Comments: Nerve growth factor; Methylene blue; BSA; CSF, artificial; CSF/CNS; Rat; 2002; 12 days; animal info (male, Wistar); functionality of mp verified by residual volume; ALZET brain infusion kit used; post op. care (SC injections of 0.9% saline (2ml)); pulsed delivery; used PE-60 tubing; used lynch coil;.

Q4870: V. Parikh*, et al.* Cognitive control deficits during mecamylamine-precipitated withdrawal in mice: Possible links to frontostriatal BDNF imbalance. NEUROBIOLOGY OF LEARNING AND MEMORY 2016;128(110-116
ALZET Comments: Nicotine hydrogen tartrate; Saline, sterile; SC; Mice; 1004; 28 days; Controls received mp w/ vehicle; animal info (male, C57BL6J, 8-10 weeks old, 20-25g); functionality of mp verified by plasma cotinine levels; behavioral testing (visual discriminations, operant training); dependence; Dose (18 mg/kg/day free base resultedin 100-150 ng/ml plasma cotinine levels);.

P5241: T. Nakamachi*, et al.* PACAP suppresses dry eye signs by stimulating tear secretion. Nat Commun 2016;7(12034
ALZET Comments: Pituitary adenylate cyclase-activating polypeptide; PACAP38; BSA; saline; IV (jugular); Mice; 1007D; 4 days; Controls received mp w/ vehicle; animal info (8 – 12 weeks old, Adcyap1-/- mice, C57BL/6 background); functionality of mp verified by tear volume; 0.1% BSA used; PE10 polyethylene catheter used; Therapeutic indication (dry eye syndrome); Dose (PACAP38 32 pmol/ul, PACAP6-38 320 pmol/ul);.

Q5420: M. Morales-Cruz*, et al.* Combining Stimulus-Triggered Release and Active Targeting Strategies Improves Cytotoxicity of Cytochrome c Nanoparticles in Tumor Cells. Mol Pharm 2016;13(8):2844-54
ALZET Comments: Nanoparticles, Cytochrome C-based; Saline; CSF/CNS; Mice; 2004; 3 days; Controls received mp w/ vehicle; animal info (C57BL/6 mice bearing GL261 glioma tumors); functionality of mp verified by measurement of tumor size; ALZET brain infusion kit 3 used; cancer (Glioma tumor model); Test of therapeutic potential of Cyt c-based NP’s (nanoparticles); Therapeutic indication (tumor growth); Dose (100 mg/mL);.

Q4908: MingWu*, et al.* Placental growth factor 2 — A potential therapeutic strategy for chronic myocardial ischemia. International Journal of Cardiology 2016;203(534-542
ALZET Comments: Placental growth factor-2, recombinant human; PBS; IV; Pig; 2ML2; 14 days; Controls received mp w/ vehicle; animal info (Sus Scrofa, 20-25kg); functionality of mp verified by plasma levels; ischemia (myocardial); cardiovascular; Dose (15 ug/kg/day);.

Q5466: S. Mia*, et al.* Role of AMP-activated protein kinase alpha1 in angiotensin-II-induced renal Tgfss-activated kinase 1 activation. Biochem Biophys Res Commun 2016;476(4):267-272
ALZET Comments: Angiotensin II; SC; Mice; 2 weeks; Controls received mp w/ vehicle; animal info (Ampk(alpha)1 -/- mice); functionality of mp verified by analysis of renal tissue; toxicology; peptides; Angiotensin II key factor in renal fibrosis; Dose (1.46 mg/kg/day);.

Q5421: J. K. McCreary*, et al.* Altered brain morphology and functional connectivity reflect a vulnerable affective state after cumulative multigenerational stress in rats. Neuroscience 2016;330(79-89
ALZET Comments: Manganese Chloride; NaOH, TRIS-HCL buffer; SC; Rat (pregnant); 2001; 7 days; Controls received mp w/ vehicle; animal info (120-day old MPS and non-stress control female Long-Evans rats); functionality of mp verified by plasma levels; no stress, "no toxic effects were anticipated or
observed" (see pg. 81); behavioral testing (open-field exploration testing); MRI imaging every second day, total of 5 time points; Multigenerational prenatal stress model; stress response measured by plasma corticosterone levels and open-field exploration in each generation; MRI-compatible pumps used (PEEK); Dose (7.14 mg/kg);.

Q5418: M. Matrai*, et al.* Estrogen therapy may counterbalance eutrophic remodeling of coronary arteries and increase bradykinin relaxation in a rat model of menopausal hypertension. Menopause 2016;23(7):778-83
ALZET Comments: Angiotensin II acetate; Ringer's solution; SC; Rat; 2Ml4; 4 weeks; Controls received mp w/ vehicle; animal info (Ovariectomized female Sprague Dawley rats, 210-240 g); functionality of mp verified by blood pressure; cardiovascular; diabetes; Rat model of hypertension induced by Angiotensin II; pentobarbital used for anesthesia; blood pressure measured directly by cannulation of carotid artery; Dose (100 ng/kg/min); Resultant blood pressure: 96 mmHg (control), 130 mmHg (hypertensive group).

Q5413: I. Mahar*, et al.* Effects of neuregulin-1 administration on neurogenesis in the adult mouse hippocampus, and characterization of immature neurons along the septotemporal axis. Sci Rep 2016;6(30467
ALZET Comments: Neuregulin-1 β, type 1; Saline; SC; Mice; 2001D; 24 hours; Controls received mp w/ vehicle; animal info (Young adult male C57Bl/6 mice); functionality of mp verified by BrdU injections; post op. care (placed on heating pad, anti-inflammatory Carprofen given); NRG1 aka neuregulin-1; Neurogenesis model in mice hippocampus; Dose (10 ug/day);.

P0776: S. Lustigman*, et al.* Identification of Ecdysone Hormone Receptor Agonists as a Therapeutic Approach for Treating Filarial Infections. PLOS Neglected Tropical Diseases 2016;10(6):e0004772
ALZET Comments: Ecdysone, 20-Hydroxy-; Ethanol; SC; Gerbil; 2006; 150 days; Controls received mp w/ vehicle; animal info (male gerbil); functionality of mp verified by measurement of larvae; pumps replaced every 42 days; long-term study (150 days); "To avoid the potential for trauma induced by having to carry out multiple gavages on each animal, Alzet mini-osmotic pumps (Model number 2006) were used" pg ; Disruption of larvae development to adult stage parasites; Therapeutic indication (Filarial Infections); Dose (5 mg/kg/day);.

Q5408: S. J. Liu*, et al.* Sodium selenate retards epileptogenesis in acquired epilepsy models reversing changes in protein phosphatase 2A and hyperphosphorylated tau. Brain 2016;139(Pt 7):1919-38
ALZET Comments: Sodium Selenate; Sodium Chloride; SC; Rat; 2004, 2006; 4 weeks, 12 weeks; Controls received mp w/ vehicle; animal info (adult male Wistar and Long-Evans rats, 12 weeks); pumps replaced after initial 6 weeks; functionality of mp verified by residual volume; neurodegenerative (Traumatic brain injury, Alzheimer's disease); behavioral testing (neurotoxicity scale (0-4) testing); long-term study; Toxicology, sodium selenate; Epilepsy model; EEG used to monitor status epilepticus; Dose (1 mg/kg/day);.

Q5401: R. Liu*, et al.* DUSP8 Regulates Cardiac Ventricular Remodeling by Altering ERK1/2 Signaling. Circ Res 2016;119(2):249-60
ALZET Comments: Angiotensin II; Phenylephrine; PBS; SC; Mice; 1002; 14 days; Controls received mp w/ vehicle; animal info (8 – 12 weeks old); functionality of mp verified by ECG; ischemia (cardiac); cardiovascular; peptides; Transverse aortic constriction; echocardiography (ECG) used; Dose (AngII 1.5 mg/kg/day, Phenylephrine 50 mg/kg/day);.

Q5399: G. Liu*, et al.* Pselectin increases angiotensin IIinduced cardiac inflammation and fibrosis via platelet activation. Mol Med Rep 2016;13(6):5021-8
ALZET Comments: Angiotensin II; Acetic Acid; Saline; SC; Mice (knockout); 1007D; 7 days; Controls received mp w/ vehicle; animal info (male P-sel KO and WT C57BL/6 mice, 8 weeks old, 23-25 g); functionality of mp verified by blood pressure; cardiovascular; no stress: "All treatments were well tolerated by the mice" (see pg. 5022); Dose (1,500 ng/kg/min); Control BP: 100 mmHg, AngII BP: 150 mmHg; Therapeutic indication (Cardiac inflammation).

Q5397: N. K. Littlejohn*, et al.* Suppression of Resting Metabolism by the Angiotensin AT2 Receptor. Cell Reports 2016;16(6):1548-1560
ALZET Comments: Angiotensin II, CGP-42112a, Epidermal growth factor; Saline; SC; Mice (transgenic); 2 weeks; Controls received mp w/ vehicle; animal info (male, AT2-KO mice); functionality of mp verified by plasma levels; dose-response; Angiotensin AT2 receptor; Dose (CGP 50, 100 ng/kg/min, EGF 0.833 ug/hr);.

Q4854: V. V. Lima*, et al.* Interleukin-10 limits increased blood pressure and vascular RhoA/Rho-kinase signaling in angiotensin II-infused mice. Life Sci 2016;145(137-143
ALZET Comments: Angiotensin II; interleukin-10, recombinant mouse;; Saline; SC; Mice; 1002; 14 days; Controls received mp w/ vehicle; animal info (male, IL-10 -/- or WT, 10-12 weeks old); functionality of mp verified by plasma levels; immunology; bp measured using catheter; Dose (Ang II 90 ng/min; IL-10 0.5 ng/min);.

Q6693: S. Liao*, et al.* Comparison of pulsatile vs. continuous administration of human placental growth hormone in female C57BL/6J mice. Endocrine 2016;54(1):169-181
ALZET Comments: Growth hormone, placental variant; SC; Mice; 1007D; 1 week; Dose (2 or 5 mg/kg/day); Controls received mp w/ vehicle; animal info (Female C57BL/6J mice); functionality of mp verified by measurement of residual volume; comparison of sc injections vs mp;.

Q5394: X. Li*, et al.* Mitochondrial Reactive Oxygen Species Mediate Lysophosphatidylcholine-Induced Endothelial Cell Activation. Arterioscler Thromb Vasc Biol 2016;36(6):1090-100
ALZET Comments: MitoTEMPO; Saline; SC; Mice (knockout); 3 weeks; Controls received mp w/ vehicle; animal info (ApoE−/− mice, 8 weeks old); functionality of mp verified by intravital microscopy; cardiovascular; Atherosclerosis study; high-fat diet; Dose (1500 ug/kg/day);.

Q5393: T. T. Li*, et al.* Endoplasmic reticulum stress in bone marrow-derived cells prevents acute cardiac inflammation and injury in response to angiotensin II. Cell Death Dis 2016;7(6):e2258
ALZET Comments: Angiotensin II; Acetic Acid, Saline; SC; Mice; 1007D; 7 days; animal info C57B/L6 mice; functionality of mp verified by blood pressure via tail cuff; peptides; Hypertensive cardiac injury study; cardiac ECG performed; Dose (1500 ng/kg/min);.

Q5392: J. Li*, et al.* Human C-reactive protein impedes entry of leptin into the CNS and attenuates its physiological actions in the CNS. Biochem J 2016;473(9):1215-24
ALZET Comments: C-reactive protein, human; Leptin, human; PBS; SC; Mice; 1007D; 7 days; Controls received mp w/ vehicle; animal info (Male C57BL/6J ob/ob mice (8 week olds)); functionality of mp verified by serum and CSF levels; Measurement of leptin content in CSF of mice; Dose (1 mg/kg/day CRP; 0.2 or 0.6 mg/kg/day Leptin);.

Q6166: Li J*, et al.* Mouse Sirt3 promotes autophagy in AngII-induced myocardial hypertrophy through the deacetylation of FoxO1. Oncotarget 2016;7(52):86648-86659
ALZET Comments: Angiotensin II; Saline; SC; Mice; 1007D; 4 weeks; Dose (200 ng/kg/min); Controls received mp w/ vehicle; animal info (WT and Sirt3-KO mice); functionality of mp (incorrectly) verified by weighing after study; cardiovascular;.

Q5390: H. B. Li*, et al.* TLR4/MyD88/NF-kappaB signaling and PPAR-gamma within the paraventricular nucleus are involved in the effects of telmisartan in hypertension. Toxicol Appl Pharmacol 2016;305(93-102
ALZET Comments: Telmisartan; Losartan; GW9662; CSF, artificial; CSF/CNS (Hypothalamic paraventricular nucleus); Rat; 2004; 4 weeks; Controls received mp w/ vehicle; animal info (12-week-old male normotensive Wistar-Kyoto); functionality of mp verified by blood pressure; bilateral cannula used; dose-response (pg. 94); post op. care (buprenorphine 0.04 mg/kg, sc); tissue perfusion (hypothalamic paraventricular nucleus); cardiovascular; antihypertensive; Dose (10 ug/hr TEL, 20 ug/hr LOS, 100 ug/hr GW); Brain coordinates (1.8mm posterior to bregma, 0.4mm from midline, and 7.9mm ventral to dura);.

Q5388: A. Leung*, et al.* Regular physical activity prevents chronic pain by altering resident muscle macrophage phenotype and increasing interleukin-10 in mice. Pain 2016;157(1):70-9

ALZET Comments: Interleukin-10; PBS; SC; Mice; 2001; 9 days; Controls received mp w/ vehicle; animal info (male, female C57BL/6 mice, 8 – 12 weeks old); functionality of mp verified by hind limb muscle withdrawal; behavioral testing (running wheel); "Mice treated with systemic IL-10 had significantly less hyperalgesia compared with mice that received vehicle" pg. 75; analgesia produced by regular physical acitivity; Dose (2 ug/day);.

Q4785: L. Becerra*, et al.* Triptans disrupt brain networks and promote stress-induced CSD-like responses in cortical and subcortical areas. Journal of Neurophysiology 2016;115):208-217
ALZET Comments: Sumatriptan; SC; Rat; 7 days; Controls received mp w/ saline; animal info (male, Sprague Dawley); functionality of mp verified by residual volume; Dose (0.6 mg/kg/day);.

Q5383: M. G. Kutlu*, et al.* Impairment of contextual fear extinction by chronic nicotine and withdrawal from chronic nicotine is associated with hippocampal nAChR upregulation. Neuropharmacology 2016;109(341-8
ALZET Comments: Nicotine Hydrogen Tartrate Salt; Saline; SC; Mice; 1002; 11 days, 13 days; Controls received mp w/ vehicle; animal info (adult (8-10 weeks old) male C57BL6/J mice); functionality of mp verified by measurement of withdrawal, plasma levels; dose-response (pg. 342); behavioral testing (contextual fear conditioning training, retention tests, and extinction sessions); dependence; chronic nicotine and withdrawal; Dose (3.1, 6.3, or 12.6 mg/kg/day);.

Q4844: L. Kopkan*, et al.* Conditional knockout of collecting duct bradykinin B2 receptors exacerbates angiotensin II-induced hypertension during high salt intake. Clinical & EXPERIMENTAL Hypertension 2016;38(1):1-9
ALZET Comments: Angiotensin II; SC; Mice; 1004; 2 weeks; animal info (UB Bdkrb2-/- or Bdkrb2 flox/flox, 10-16 weeks old); functionality of mp verified by plasma levels; cardiovascular; peptides; bp measured using radiotelemetry (DSI); Dose (100 ng/kg/min); good bp graph;.

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
ALZET Comments: Angiotensin II; Glucagon-like peptide-1; Glucose-dependent insulinotropic polypeptide; Saline; SC; Mice; 1002; 4 weeks; Controls received mp w/ vehicle; animal info (Apoe -/- mice, 9 weeks old); functionality of mp verified by plasma levels, blood pressure; pumps replaced every 2 weeks; cardiovascular; atherosclerosis; peptides; Pathophysiology similarities btwn abdominal aortic aneurysms, atherosclerosis; 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);.

Q5380: M. Kockx*, et al.* Low-Density Lipoprotein Receptor-Dependent and Low-Density Lipoprotein Receptor-Independent Mechanisms of Cyclosporin A-Induced Dyslipidemia. Arterioscler Thromb Vasc Biol 2016;36(7):1338-49
ALZET Comments: Cyclosporine A; Ethanol; Cremophor EL; SC; Mice; 2004; 4 weeks; Controls received mp w/ vehicle; animal info (female mice, C57Bl/6, 18-20 g); functionality of mp verified by plasma levels; 33% ethanol, 62% Cremophor EL used; toxicology; Cyclosporine A aka CsA; CsA does not induce liver or kidney toxicity; Dose (20 mg/kg/day); Resultant plasma level (1087±124 ng/mL, 711±91 ng/mL after 1 week, 4 weeks);.

Q4841: A. Kawamura*, et al.* Teratocarcinomas Arising from Allogeneic Induced Pluripotent Stem Cell-Derived Cardiac Tissue Constructs Provoked Host Immune Rejection in Mice. SCIENTIFIC REPORTS 2016;6(1-13
ALZET Comments: Tacrolimus; SC; Mice; 1002; 27 days; cancer (teratocarcinoma); immunology; animal info (BALB/c); functionality of mp verified by plasma levels; pumps replaced after 14 days; BLI; Dose (1.5 mg/kg);.

Q5378: M. Kasztan*, et al.* Extracellular purines' action on glomerular albumin permeability in isolated rat glomeruli: insights into the pathogenesis of albuminuria. Am J Physiol Renal Physiol 2016;311(1):F103-11
ALZET Comments: 2-meSATP; ATP-γ-S; SC; Rat; 2001; 7 days; animal info (Wistar rats. Male rats, 200–260 g); functionality of mp verified by albumin concentration in urine; Convectional albumin permeability increased in a time- and concentration-dependent manner; Nonmetabolized ATP analogs (2-meSATP and ATP-γ-S); anesthesia with ketamine and xylazine; study of pathogenesis of albuminuria; Dose (1 umol/L);.

Q5355: K. Karimi Galougahi*, et al.* beta3 Adrenergic Stimulation Restores Nitric Oxide/Redox Balance and Enhances Endothelial Function in Hyperglycemia. J Am Heart Assoc 2016;5(2):
ALZET Comments: S961; CL 316,243; Saline; SC; Rabbit; 2ML1; 3 days, 7 days; Controls received mp w/ vehicle; animal info (male New Zealand White rabbits, 2.2 – 2.6 kg); functionality of mp verified by plasma levels; Diabetes-induced vascular dysfuntcion; Hyperglycemia study; Dose (12 ug/kg/hr S961, 40 ug/kg/hr CL);.

Q4626: Jussara M. do Carmo*, et al.* Regulation of Blood Pressure, Appetite, and Glucose by Leptin After Inactivation of Insulin Receptor Substrate 2 Signaling in the Entire Brain or in Proopiomelanocortin Neurons. Hypertension 2016;67):378-386
ALZET Comments: Leptin; Saline; IP; Mice; 1007D; 7 days; Controls received mp w/ vehicle; animal info (RIS2 flox/flox or Nestin-cre, 22 weeks old); functionality of mp verified by leptin plasma levels; behavioral testing (air jet stress test; motor activity); cardiovascular; Dose (4 ug/kg/min);.