



Recent References (2019-Present) on Extended Duration Studies
Using ALZET® Osmotic Pumps

Q10385: Y. Hasuike, *et al.* CAG repeat-binding small molecule improves motor coordination impairment in a mouse model of Dentatorubral-pallidoluysian atrophy. *Neurobiology of Disease* 2022;163(105604

Agents: Naphthyridine-azaquinolone **Vehicle:** PBS; **Route:** CSF/CNS (right lateral ventricle); **Species:** Mice; **Pump:** 2004; **Duration:** 16 weeks;

ALZET Comments: Dose (2 mM); Controls received mp w/ vehicle; animal info (6 weeks old); behavioral testing (Tested motor function with rotarod device; Beam-walking test); pumps replaced every 4 weeks; long-term study; ALZET brain infusion kit used; Brain coordinates (0.4 mm posterior; 1.0 mm right lateral; 2.5 mm ventral); neurodegenerative (Dentatorubral-pallidoluysian atrophy); Therapeutic indication (DRPLA);

Q10271: N. Daneshgar, *et al.* Elamipretide treatment during pregnancy ameliorates the progression of polycystic kidney disease in maternal and neonatal mice with PKD1 mutations. *Kidney International* 2022;101(5):906-911

Agents: Elamipretide **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** 10 weeks;

ALZET Comments: Dose (3 mg/kg/d); animal info (PKD1RC/null mice were generated by crossing PKD1RC/RC mice with PKD1 β / mice. The PKD1 β / were generated by breeding PKD1flox/flox mice, JAX, with germline Sox2-Cre transgenic mice); pumps replaced after 5 weeks; peptides; teratology; Therapeutic indication (ADPKD);

Q10428: C. H. Cho, *et al.* Role of the JAK/STAT pathway in a streptozotocin-induced diabetic retinopathy mouse model. *Graefes Archive Clinical and Experimental Ophthalmology* 2022;260(11):3553-3563

Agents: STAT3 inhibitor; JAK inhibitor 1 **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 8 weeks;

ALZET Comments: Dose (STAT3 40 mg/kg; JAK 45 mg/kg); animal info (Male; 6 weeks old; Weighed 18-22 g); pumps replaced every 4 weeks; diabetes;

Q10425: X. Chen, *et al.* Klotho-derived peptide 6 ameliorates diabetic kidney disease by targeting Wnt/beta-catenin signaling. *Kidney International* 2022;102(3):506-520

Agents: KP6 **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Mice; **Pump:** Not Stated; **Duration:** 8 weeks;

ALZET Comments: Dose: KP6 (1 mg/kg per day); Controls received mp w/ vehicle; animal info: Male CD-1 mice; SAU mice; Male db/db and db/m mice; pump replaced after 4 weeks Klothoderived peptide 6 aka (KP6); peptides; diabetes;

Q10420: S. Canovas Nunes, *et al.* Validation of a small molecule inhibitor of PDE6D-RAS interaction with favorable anti-leukemic effects. *Blood Cancer Journal* 2022;12(4):64

Agents: DW0254 **Vehicle:** DMSO; Ethanol; **Route:** SC; **Species:** Mice; **Pump:** 2001; **Duration:** 7 days;

ALZET Comments: Dose: (500 mg/ml); 50% DMSO and 15% Ethanol vehicle used; Controls received mp w/ vehicle; animal info: NBSGW mice; DW0254 is a small molecule RAC inhibitor; pumps replaced after one week; cancer (lymphoblastic leukemia)

Q10286: E. A. L. Wozniak, *et al.* Cholecystokinin 1 receptor activation restores normal mTORC1 signaling and is protective to Purkinje cells of SCA mice. *Cell Reports* 2021;37(2):109831

Agents: A71623 **Vehicle:** PBS; **Route:** IP; **Species:** Mice; **Pump:** 1004; **Duration:** 30 weeks;

ALZET Comments: Dose (0.02mg/kg/day); animal info (6 weeks old, ~20g or larger); behavioral testing (tested on a rotarod apparatus, beam walk); pumps replaced every 7 weeks; Cck1 receptor agonist aka A71623; neurodegenerative (Spinocerebellar ataxia);

Q9554: E. A. L. Wozniak, *et al.* Cholecystokinin 1 Receptor (Cck1R) Activates mTORC1 signaling and is Protective to. *BioRxiv* 2021;

Agents: A71623 **Vehicle:** PBS; **Route:** IP; **Species:** Mice; **Pump:** 1004; **Duration:** 31 weeks;

ALZET Comments: Dose (0.02 mg/kg/day); Controls received mp w/ vehicle; animal info (5 week old mice); behavioral testing (Rotarod; Beam Walk); pumps replaced every 7 weeks; neurodegenerative (Purkinje neuron degeneration);



Q9957: T. Wakamatsu, *et al.* Type I Angiotensin II Receptor Blockade Reduces Uremia-Induced Deterioration of Bone Material Properties. *Journal of Bone & Mineral Research* 2021;36(1):67-79

Agents: Olmesartan, Hydralazine Hydrochloride **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2ML2; **Duration:** 26 weeks; **ALZET Comments:** Dose (Olmesartan- 3 mg/kg/day or Hydralazine Hydrochloride- 10 mg/kg/day); Controls received mp w/ vehicle; animal info (); pumps replaced every 2 weeks; long-term study; Blood pressure measured via Tail Cuff Method ;dependence;

Q9517: P. S. van Nieuwenhuijzen, *et al.* Targeting GABAC Receptors Improves Post-Stroke Motor Recovery. *Brain Sciences* 2021;11(3):

Agents: L655,708; (R)-4-ACPBPA; (S)-4-ACPBPA **Vehicle:** DMSO; Saline; **Route:** Not Stated; **Species:** Mice; **Pump:** 1002; **Duration:** 4 weeks;

ALZET Comments: Dose (200 ug/kg/day); 0.9% Saline used; Controls received mp w/ vehicle; animal info (male C57BL/6J mice, 2-3 months old, 27-30 g); behavioral testing (Grid-Walking test; Cylinder task); pumps replaced every 2 weeks; ischemia

Q9505: T. Troiano, *et al.* Inhibition of NOX1 mitigates blood pressure increases in elastin insufficiency. *American Physiological Society* 2021;

Agents: Apocynin **Vehicle:** DMSO; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** 56 days;

ALZET Comments: Dose (3 mg/kg/day); 50% DMSO used; Controls received mp w/ vehicle; animal info (4-6 wk of age, male Eln+/+ and Eln+/- mice); functionality of mp verified by volume of solution; pumps replaced every 28 days; Blood pressure measured via angiocatheter;cardiovascular;

Q10053: J. Pajarinen, *et al.* Interleukin-4 repairs wear particle induced osteolysis by modulating macrophage polarization and bone turnover. *Journal of Biomedical Material Research Part A* 2021;109(8):1512-1520

Agents: Polyethylene, ultra high molecular mass weight; Interleukin-4, mouse recombinant **Vehicle:** BSA; PBS; **Route:** SC; **Species:** Mice; **Pump:** 2006; **Duration:** 8 weeks;

ALZET Comments: Dose (15 mg/ml ultra high molecular mass weight polyethylene; 10 ug/ml Interleukin-4); 1% BSA-PBS used; Controls received mp w/ vehicle; animal info (male BALB/cByJ mice, 10-12 weeks); post op. care (buprenorphine); functionality of mp verified by residual volume; pumps replaced every 4 weeks; ultra high molecular mass weight polyethylene aka UHMWPE; mouse recombinant interleukin-4 aka IL-4; dependence;

Q10254: T. Masaki, *et al.* GIP_HUMAN[22-51] is a new proatherogenic peptide identified by native plasma peptidomics. *Scientific Reports* 2021;11(1):14470

Agents: Glucose-dependent insulinotropic polypeptide; Glucose-dependent insulinotropic polypeptide neutralising antibody **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 4 weeks;

ALZET Comments: Dose: (0.6 nmol/kg/h) or (1.4 µg/kg/h); Controls received mp w/ vehicle; animal info: ApoE, 17 weeks of age, pumps replaced after 2 weeks; Glucose-dependent insulinotropic polypeptide aka (GIP)

Q9358: S. Maeda, *et al.* Notch signaling-modified mesenchymal stem cells improve tissue perfusion by induction of arteriogenesis in a rat hindlimb ischemia model. *Scientific Reports* 2021;11(1):2543

Agents: Cyclosporin **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** Not Stated; **Duration:** 28 days;

ALZET Comments: Dose (10 mg/kg/day); animal info (Female Sprague-Dawley rats, 10 weeks old); pumps replaced every 2 weeks; ischemia (rat handlimb ischemia model);

Q10222: S. Kumar, *et al.* Neuroprotection of the Inner Retina Also Prevents Secondary Outer Retinal Pathology in a Mouse Model of Glaucoma. *Investigative Ophthalmology & Visual Science*, 2021;62(9):35

Agents: Meclofenamic Acid **Vehicle:** Not Stated; **Route:** SC **Species:** Mice; **Pump:** 2004; **Duration:** Not Stated;

ALZET Comments: Dose: (20 mg/kg/day); Controls received mp w/ no vehicle; animal info: C57BL/6 wild-type (WT) mice and on connexin 36 knock-out mice;pumps replaced at 4 weeks; Meclofenamic acid aka (MFA); neurodegenerative (Glaucoma);



- Q9228:** N. D. Fried, *et al.* Angiotensin II type 1 receptor mediates pulmonary hypertension and right ventricular remodeling induced by inhaled nicotine. *American Journal of Physiology Heart Circulatory Physiology* 2021;320(4):H1526-H1534
Agents: Losartan **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** 8 weeks;
ALZET Comments: Dose (6.5, 5.0 mg/kg/day); Controls received mp w/ vehicle; animal info (Adult, male C57BL6/J mice, 8 to 12 weeks old, 23 to 30 g); post op. care (buprenorphine); pumps replaced every 4 weeks; cardiovascular;
- Q10143:** K. E. Chen, *et al.* Prolactin enhances T regulatory cell promotion of breast cancer through the long form prolactin receptor. *Translational Oncology* 2021;14(11):101195
Agents: SMO; LFPRLR SMO, mice; LFPRLR SMO, human **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Mice (NOD/SCID); **Pump:** 2004; **Duration:** 28 days;
ALZET Comments: Dose: (100 pmoles/h); Controls received mp w/ vehicle; animal info:8-week old Foxp3+EGFP Balb/c or NOD-SCID mice; pumps replaced (as needed); SMO aka splice modulating oligomer; LFPRLR aka long form prolactin receptor; cancer (Breast cancer);
- Q9169:** S. L. Burke, *et al.* Role of Mineralocorticoid and Angiotensin Type 1 Receptors in the Paraventricular Nucleus in Angiotensin-Induced Hypertension. *Frontiers in Physiology* 2021;12(640373)
Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Rabbit; **Pump:** 2ML4; **Duration:** 12 weeks;
ALZET Comments: Dose (24 ng/kg/min); 0.9% NaCl used; Controls received mp w/ vehicle; animal info (male New Zealand White rabbits, 2.3-3.1 kg); pumps replaced every 4 weeks; Angiotensin II aka AngII; cardiovascular;
- Q10356:** A. Arnoux, *et al.* Evaluation of a 5-HT2B receptor agonist in a murine model of amyotrophic lateral sclerosis. *Scientific Reports* 2021;11(1):23582
Agents: BW723C86 **Vehicle:** DMSO; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** Not Stated;
ALZET Comments: Dose (1 mg/kg/d; 3 mg/kg/d); 20% DMSO used; animal info (Female; Male; 75 days old); pumps replaced every month; neurodegenerative (Amyotrophic lateral sclerosis); Therapeutic indication (Amyotrophic lateral sclerosis);
- Q10355:** H. Arnould, *et al.* Loss of prion protein control of glucose metabolism promotes neurodegeneration in model of prion diseases. *PLoS Pathogens* 2021;17(10):e1009991
Agents: DCA **Vehicle:** DMEM; PIPES; HEPES; **Route:** IP; **Species:** Mice; **Pump:** Not Stated; **Duration:** Not Stated;
ALZET Comments: Dose (100 mg/kg/day); animal info (8 weeks old; Male; Inoculated intracerebrally with 20 ul of sample containing cell extracts); pumps replaced every 3 weeks; neurodegenerative (Prion diseases); Therapeutic indication (Prion diseases);
- Q9889:** S. Yoshida, *et al.* Syngeneic Mesenchymal Stem Cells Reduce Immune Rejection After Induced Pluripotent Stem Cell-Derived Allogeneic Cardiomyocyte Transplantation. *Scientific Reports* 2020;10(1):4593
Agents: Tacrolimus **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 15 days;
ALZET Comments: Dose (1.5 mg/kg body weight); animal info (Adult male BALB/c mice (6–7 weeks old, 17–22 g)); pumps replaced every 13 days; immunology;
- Q9902:** Q. Yang, *et al.* Sirt6 deficiency aggravates angiotensin II-induced cholesterol accumulation and injury in podocytes. *Theranostics* 2020;10(16):7465-7479
Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 8 weeks;
ALZET Comments: Dose (700 ng/kg/min); Controls received mp w/ vehicle; animal info (8 weeks old, Male); pumps replaced every 4 weeks; cardiovascular;
- Q9938:** J. A. Whitson, *et al.* SS-31 and NMN: Two paths to improve metabolism and function in aged hearts. *Aging Cell* 2020;19(10):e13213
Agents: Elamipretide **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 8 weeks;
ALZET Comments: Dose (3 mg/kg/day); Controls received mp w/ vehicle; animal info (Male, C57BL/6, 24 months old); pumps replaced every 4 weeks; as Elamipretide aka SS-31 aka synthetic tetrapeptide ; peptides; cardiovascular;



Q9538: X. Wang, *et al.* Nogo receptor decoy promotes recovery and corticospinal growth in non-human primate spinal cord injury. *Brain* 2020;143(6):1697-1713

Agents: NgR1(310)-Fc **Vehicle:** Not Stated; **Route:** CSF/CNS (spinal cord); **Species:** Monkey; **Pump:** 2ML4; **Duration:** 4 months;

ALZET Comments: Dose (0.10-0.17 mg/kg/day); Controls received mp w/ vehicle; animal info (Adult African green monkeys (vervets, female, baseline body weight 4.2–7.2 kg)); pumps replaced every month; long-term study; NgR1(310)-Fc aka Nogo receptor decoy protein; spinal cord injury;

Q9536: L. Wang, *et al.* Treatment With Treprostinil and Metformin Normalizes Hyperglycemia and Improves Cardiac Function in Pulmonary Hypertension Associated With Heart Failure With Preserved Ejection Fraction. *Arteriosclerosis, Thrombosis, and Vascular Biology* 2020;40(6):1543-1558

Agents: Treprostinil **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat, Mice; **Pump:** 2ML4, 2006; **Duration:** 16 weeks;

ALZET Comments: Dose (40, 300, and 900 ng/kg/min); animal info (8-week old male obese ZSF1 rats; 8-week old male C57BL/6J mice); pumps replaced every 28 or 42 days; long-term study; cardiovascular;

Q9526: G. Wang, *et al.* The study of targeted blocking SDF-1/CXCR4 signaling pathway with three antagonists on MMPs, type II collagen, and aggrecan levels in articular cartilage of guinea pigs. *Journal of Orthopaedic Surgery and Research* 2020;15(1):195

Agents: T140; AMD3100; TN14003 **Vehicle:** PBS; **Route:** SC; **Species:** Guinea Pig; **Pump:** Not Stated; **Duration:** 12 weeks;

ALZET Comments: Dose (180 ug/ml); Controls received mp w/ vehicle; animal info (male Duncan-Hartley guinea pigs (6-month-old, weight = 600 ± 50g)); pumps replaced every 6 weeks; long-term study; dependence;

Q9514: M. A. Ulleryd, *et al.* RNA sequencing data describing transcriptional changes in aorta of ApoE^{-/-} mice after alpha 7 nicotinic acetylcholine receptor (alpha7nAChR) stimulation. *Data in Brief* 2020;30(105415)

Agents: Alpha 7 nicotinic acetylcholine receptor agonist **Vehicle:** Cyclodextrin; Saline; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 8 weeks;

ALZET Comments: Dose (50 µmo/kg/day); 28% cyclodextrin used; Controls received mp w/ vehicle; animal info (Male apoE^{-/-} mice, 10 weeks old); pumps replaced every 4 weeks; Alpha 7 nicotinic acetylcholine receptor agonist aka α7nAChR agonist; gene therapy;

Q9500: W. M. Tierney, *et al.* Transplanted Human Neural Progenitor Cells Attenuate Motor Dysfunction and Lengthen Longevity in a Rat Model of Ataxia. *Cell Transplantation* 2020;29(963689720920275)

Agents: Cyclosporine **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** 2ML4; **Duration:** 28 days;

ALZET Comments: Dose (15 mg/ kg/d); animal info (spastic Han Wistar rat); behavioral testing (Motor Activity Testing); pumps replaced every 23 days; gene therapy;

Q9978: A. Szeto, *et al.* Oxytocin reduces adipose tissue inflammation in obese mice. *Lipids in Health and Disease* 2020;19(1):188

Agents: Oxytocin **Vehicle:** Sodium Citrate; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** 8 weeks;

ALZET Comments: Dose (4.22 ug/day); Controls received mp w/ vehicle; animal info (Male, C57BLKS/J); pumps replaced every 6 weeks; immunology;

Q9473: K. Shibata, *et al.* Lipocalin-2 exerts pro-atherosclerotic effects as evidenced by in vitro and in vivo experiments. *Heart and Vessels* 2020;35(7):1012-1024

Agents: Lipocalin-2 **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 4 weeks;

ALZET Comments: Dose (5 µg/kg/h); Controls received mp w/ vehicle; animal info (male spontaneously hyperlipidemic ApoE^{-/-} mice, 13 weeks old); pumps replaced every 2 weeks; Blood pressure measured via tail-cuff method; 92.1 mmHg - 92.6 mmHg; Resultant plasma level (282.7 mg/dL Glucose; 27.4 pM Insulin); Lipocalin-2 aka LCN2; cardiovascular;



Q10050: N. Osaka, *et al.* Anti-inflammatory and atheroprotective properties of glucagon. *Diabetes & Vascular Disease Research* 2020;17(5):1479164120965183

Agents: Glucagon **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 4 weeks;

ALZET Comments: Dose (138 or 413 nmol/kg/day); Controls received mp w/ vehicle; animal info (Male ApoE^{-/-} mice, 6 weeks old); pumps replaced every 2 weeks; Blood pressure measured via tail-cuff method; 103 mmHg - 115 mmHg; Resultant plasma level (81 mg/dl Plasma glucose); diabetes;

Q8920: T. Okano, *et al.* Beta-Endorphin Mediates the Development and Instability of Atherosclerotic Plaques. *International Journal of Endocrinology* 2020;2020(4139093)

Agents: Endorphin, B-; **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 4 weeks;

ALZET Comments: Controls received mp w/ vehicle; animal info (male spontaneously hyperlipidemic ApoE^{-/-} mice, 13 weeks of age); pumps replaced every 2 weeks; Blood pressure measured via tail-cuff method; 91.4 mmHg - 92.1 mmHg; Resultant plasma level (294.3 mg/dL Glucose); peptides; dependence;

Q10048: M. A. Nunes, *et al.* Kinin B2 Receptor Activation Prevents the Evolution of Alzheimer's Disease Pathological Characteristics in a Transgenic Mouse Model. *Pharmaceuticals (Basel)* 2020;13(10):

Agents: Amyloid Beta 1-42 **Vehicle:** CSF, Artificial; **Route:** CSF/CNS; **Species:** Mice; **Pump:** 1004; **Duration:** 8 weeks;

ALZET Comments: Dose (10 nmol/kg/h); Controls received mp w/ vehicle; animal info (Twelve-month-old transgenic mice); pumps replaced every 4 weeks; Amyloid Beta 1-42 aka AB peptide; peptides; neurodegenerative (Alzheimer's Disease);

Q8651: A. Maqbool, *et al.* Divergent effects of genetic and pharmacological inhibition of Nox2 NADPH oxidase on insulin resistance-related vascular damage. *American Journal of Physiology-Cell Physiology* 2020;319(1):C64-C74

Agents: Peptide, Gp91ds-tat **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Mice; **Pump:** 1004; **Duration:** 8 weeks;

ALZET Comments: Dose (10 mg/kg/day); animal info (Mice, 8 weeks old); pumps replaced every 4 weeks; Peptide, Gp91ds-tat aka gp91dstat; peptides; diabetes;

Q8628: A. Levit, *et al.* Hypertension and Pathogenic hAPP Independently Induce White Matter Astrocytosis and Cognitive Impairment in the Rat. *Frontiers in Aging Neuroscience* 2020;12(82)

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2004; **Duration:** 8 weeks;

ALZET Comments: Dose (10,000 ng/kg/h); Controls received mp w/ vehicle; animal info (male Rats, 7.25 months old, 367 g); behavioral testing (Morris Water Maze, Open Field Test); pumps replaced every 4 weeks; Blood pressure measured via tail cuff method; 120 mmHg - 170 mmHg; Angiotensin II aka Ang II; cardiovascular;

Q8618: J. Kwun, *et al.* Cultured thymus tissue implantation promotes donor-specific tolerance to allogeneic heart transplants. *JCI Insight* 2020;5(11):

Agents: Cyclosporine A **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** 2ML4; **Duration:** 4 months;

ALZET Comments: Dose (2.5 mg/kg/d); animal info (LW (RT-1l) and BN (RT-1n) rats); pumps replaced every month; Cyclosporine A aka CsA; immunology;

Q10319: M. Krishnan, *et al.* beta-hydroxybutyrate Impedes the Progression of Alzheimer's Disease and Atherosclerosis in ApoE-Deficient Mice. *Nutrients* 2020;12(2):

Agents: PBS; Beta-hydroxybutyrate **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** 8 weeks;

ALZET Comments: Dose: (1.5 mmol/kg/day in PBS); Controls received mp w/ vehicle; animal info: Six-week-old male ApoE^{+/+}? (C57BL/6J background) and C57BL/6J mice; pumps replaced every 4 weeks; half-life (p.10); Beta-hydroxybutyrate aka (B-OHB); neurodegenerative (Alzheimer's disease);

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

Agents: Beta-hydroxybutyrate **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** 8 weeks;

ALZET Comments: Dose (1.5 mmol/kg/day); Controls received mp w/ vehicle; animal info (Six-week-old male ApoE^{-/-} and C57BL/6J mice); pumps replaced every 4 weeks; Beta-hydroxybutyrate aka B-OHB; neurodegenerative (Alzheimer's Disease);



Q8572: E. Kim, *et al.* Preventative, but not post-stroke, inhibition of CD36 attenuates brain swelling in hyperlipidemic stroke. *Journal of Cerebral Blood Flow & Metabolism* 2020;40(4):885-894

Agents: Salvianolic acid B **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** Not stated; **Duration:** 8 weeks;

ALZET Comments: Dose (100 mg/kg/day); Controls received mp w/ vehicle; animal info (Six-week-old ApoE KO mice); pumps replaced every 4 weeks; salvianolic acid B aka SAB; neurodegenerative (Stroke);

Q8603: D. Kerkhofs, *et al.* Pharmacological depletion of microglia and perivascular macrophages prevents Vascular Cognitive Impairment in Ang II-induced hypertension. *Theranostics* 2020;10(21):9512-9527

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 2006; **Duration:** 12 weeks;

ALZET Comments: Dose (1 µg/kg/min); Controls received mp w/ vehicle; animal info (3 month old male Tg mice); pumps replaced every 12 weeks; Blood pressure measured via tail-cuff; Angiotensin II aka Ang II; cardiovascular;

Q8854: R. H. Isaacson, *et al.* Olanzapine-induced liver injury in mice: aggravation by high-fat diet and protection with sulforaphane. *Journal of Nutritional Biochemistry* 2020;81(108399)

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

ALZET Comments: Dose (8 mg/kg/d); Controls received mp w/ vehicle; animal info (Female C57BL/6 J mice (8 weeks old)); pumps replaced every 2 weeks; dependence;

Q10162: J. J. Fuster, *et al.* TET2-Loss-of-Function-Driven Clonal Hematopoiesis Exacerbates Experimental Insulin Resistance in Aging and Obesity. *Cell Reports* 2020;33(4):108326

Agents: MCC950 **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** 2006; **Duration:** 6 weeks;

ALZET Comments: Dose:(10 mg/kg/day); Controls received mp w/ vehicle; animal info:10 week-old unconditioned (i.e., non-irradiated) C57BL/6 Pep Boy CD45; pumps replaced at week 10; MCC950 is a specific NLRP3 blocker; diabetes; Type 2 diabetes

Q8467: E. Fielder, *et al.* Anti-inflammatory treatment rescues memory deficits during aging in nfkb1(-/-) mice. *Aging Cell* 2020;19(10):e13188

Agents: Ibuprofen **Vehicle:** DMSO; PEG; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 2 months;

ALZET Comments: Dose (50 mg/kg/day); Controls received mp w/ vehicle; animal info (male C57BL/6 mice, 6 months old); pumps replaced every 28 days; dependence;

Q8463: A. K. Evans, *et al.* Beta-adrenergic receptor antagonism is proinflammatory and exacerbates neuroinflammation in a mouse model of Alzheimer's Disease. *Neurobiology of Disease* 2020;146(105089)

Agents: Metoprolol **Vehicle:** Not stated; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** 3 months; 2 months;

ALZET Comments: Dose (5 mg/kg/day); Controls received mp w/ vehicle; animal info (male mice, 3.5 months old; female mice, 6 months old); behavioral testing (Morris Water Maze; Fear Conditioning); pumps replaced every 4 weeks; long-term study; neurodegenerative (Alzheimer's);

Q8439: T. Develi, *et al.* Preventive and therapeutic effects of relaxin on bisphosphonaterelated osteonecrosis of the jaw: an experimental study in rats. *Brazilian Dental Science* 2020;23(1):

Agents: Relaxin **Vehicle:** Saline; **Route:** IP; **Species:** Rat; **Pump:** Not stated; **Duration:** 12 weeks;

ALZET Comments: Dose (0.17 µg/hr); Controls received mp w/ vehicle; animal info (Sprague Dawley rats); pumps replaced every 4 weeks; long-term study; dependence;

Q9841: Y. Zhao, *et al.* ATAD3A oligomerization causes neurodegeneration by coupling mitochondrial fragmentation and bioenergetics defects. *Nature Communications* 2019;10(1):1371

Agents: TAT control peptide or DA1 peptide **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 6,8 weeks;

ALZET Comments: Dose (1 mg/kg/day); animal info (Male, YAC128, 3 month old); behavioral testing (Tail Suspension Test); pumps replaced every 4 weeks; peptides; neurodegenerative (Huntington's Disease);



Q8971: Y. Zhao, *et al.* ATAD3A oligomerization causes neurodegeneration by coupling mitochondrial fragmentation and bioenergetics defects. *Nature Communications* 2019;10(1):1371

Agents: TAT control peptide; DA1 peptide **Vehicle:** Not stated; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 6, 8 weeks; **ALZET Comments:** Dose (1 mg/kg/day); animal info (Male, YAC128, 3 month old); behavioral testing (Tail Suspension Test); pumps replaced every 4 weeks; peptides; neurodegenerative (Huntington's Disease);

Q9120: T. Yotsumoto, *et al.* Foramen magnum stenosis and midface hypoplasia in C-type natriuretic peptide-deficient rats and restoration by the administration of human C-type natriuretic peptide with 53 amino acids. *PLoS One* 2019;14(5):e0216340

Agents: C-type natriuretic peptide 53 **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** 2004; **Duration:** 4 weeks; **ALZET Comments:** Dose (0.5 mgm/kg/day); Controls received mp w/ vehicle; animal info (CNP-KO, 5-9 weeks old); pumps replaced every 2 weeks; peptides; dependence;

Q7516: W. Yin, *et al.* Protein kinase C and protein kinase A are involved in the protection of recombinant human glucagon-like peptide-1 on glomeruli and tubules in diabetic rats. *Journal of Diabetes Investigation* 2019;10(3):613-625

Agents: Peptide-1, recombinant human glucagon-like **Vehicle:** Saline; **Route:** IV; **Species:** Rat; **Pump:** 2004; **Duration:** 12 weeks; **ALZET Comments:** "Dose (1.5 pmol/kg/min); 0.9% saline; Controls received mp w/ vehicle; animal info (Eight-week-old male/female Wistar rats weighing 300 – 10 g); pumps replaced at 4 weeks; half-life (p.614 half-life in blood is approximately 2 h.); peptides; diabetes; "

Q7642: W. Yan, *et al.* Treatment with a brain-selective prodrug of 17beta-estradiol improves cognitive function in Alzheimer's disease mice by regulating klf5-NF-kappaB pathway. *Naunyn-Schmiedeberg's Archives of Pharmacology* 2019;392(7):879-886

Agents: dihydroxyestra-1,4-dien-3-one, 10 β ,17 β - **Vehicle:** propylene glycol; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 8 weeks; **ALZET Comments:** Dose (2 μ g/day); Controls received sham surgery and mp w/ vehicle; animal info (6 months, female, Tg2576); behavioral testing (Morris Water Maze); pumps replaced every 4 weeks; 17beta-dihydroxyestra-1,4-diene-3-one (DHED) is a brain-selective prodrug of 17beta-estradiol; neurodegenerative (Alzheimer's); replacement therapy (estradiol); treatment groups received bilateral ovariectomies; Therapeutic indication (hinder the progression of AD and improving cognitive functions through inhibiting klf5-NF- κ B pathway and restraining oxidative and inflammatory stress in the hippocampus);

Q9100: M. D. Wetzel, *et al.* L-Homoarginine supplementation prevents diabetic kidney damage. *Physiological Reports* 2019;7(18):e14235

Agents: Arginine, L-homoarginine **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 12 weeks; **ALZET Comments:** Dose (0.72 mg/kg/day); animal info (6-week-old Ins2Akita mice); pumps replaced every 6 weeks; Resultant plasma level (1.4 μ mol/L); cardiovascular;

Q9094: P. Varma, *et al.* Targeting Seizure-Induced Neurogenesis in a Clinically Relevant Time Period Leads to Transient But Not Persistent Seizure Reduction. *Journal of Neuroscience* 2019;39(35):7019-7028

Agents: Ganciclovir **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 8 weeks; **ALZET Comments:** Dose (150 mg/kg/day); Controls received mp w/ vehicle; animal info (6 weeks old); pumps replaced every 4 weeks; neurodegenerative (Seizure);

Q9093: N. Valkov, *et al.* MicroRNA-1-Mediated Inhibition of Cardiac Fibroblast Proliferation Through Targeting Cyclin D2 and CDK6. *Frontiers in Cardiovascular Medicine* 2019;6(65)

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2ML2; **Duration:** 4 weeks; **ALZET Comments:** Dose (555 ng/kg/min); 0.9% Saline used; Controls received mp w/ vehicle; animal info (Sprague Dawley, Male, 5-6 weeks old); pumps replaced every 2 weeks; cardiovascular;



Q8944: K. Sato, *et al.* Chemerin-9, a potent agonist of chemerin receptor (ChemR23), prevents atherogenesis. *Clinical Science (Lond)* 2019;133(16):1779-1796

Agents: Human chemerin; Chemerin-9 **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 4 weeks;
ALZET Comments: Dose (human chemerin- 7.7 ug/kg/h and chemerin-9- 7.7 ug/kg/h); Controls received mp w/ vehicle; animal info (ApoE^{-/-}, 17 weeks old,); pumps replaced every 2 weeks; cardiovascular;

Q8823: C. N. Receno, *et al.* Effects of Prolonged Dietary Curcumin Exposure on Skeletal Muscle Biochemical and Functional Responses of Aged Male Rats. *International Journal of Molecular Sciences* 2019;20(5):

Agents: Curcumin **Vehicle:** DMSO; **Route:** SC; **Species:** Rat; **Pump:** 2ML4; **Duration:** 4 months;
ALZET Comments: Animal info (32 months old, Male); pumps replaced every 4 weeks; long-term study; dependence;

Q8839: N. Ozawa, *et al.* Legumain Promotes Atherosclerotic Vascular Remodeling. *International Journal of Molecular Sciences* 2019;20(9):

Agents: Legumain **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 4 weeks;
ALZET Comments: Dose (5 ug/kg/day); Controls received mp w/ vehicle; animal info (Male, ApoE^{-/-}, 17 weeks old); pumps replaced every 2 weeks; Blood pressure measured via Tail cuff method;cardiovascular;

Q7560: K. P. Melo, *et al.* Mild Exercise Differently Affects Proteostasis and Oxidative Stress on Motor Areas During Neurodegeneration: A Comparative Study of Three Treadmill Running Protocols. *Neurotox Res* 2019;35(2):410-420

Agents: Rotenone **Vehicle:** DMSO, Polyethylene glycol; **Route:** SC; **Species:** Rat; **Pump:** 2ML4; **Duration:** 4 weeks; 8 weeks;
ALZET Comments: Dose (1 mg/kg/day); 50% DMSO:50% PEG used; Controls received mp w/ vehicle; animal info (Male, Lewis, 8 or 9 months old); pumps replaced every 4 weeks; spinal cord injury; neurodegenerative (Motorcortex);

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

Agents: Hypocretin-1 **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** Not stated; **Duration:** 8 weeks;
ALZET Comments: Dose (50 nmol/h/kg); Controls received mp w/ vehicle; pumps replaced every 4 weeks;

Q7531: R. M. Lataro, *et al.* Chronic Treatment With Acetylcholinesterase Inhibitors Attenuates Vascular Dysfunction in Spontaneously Hypertensive Rats. *American Journal of Hypertension* 2019;32(6):579-587

Agents: Pyridostigmine Bromide; Donepezil **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** 2004; **Duration:** 16 weeks;
ALZET Comments: Dose (Pyridostigmine bromide at 1.5 mg/kg/day; Donepezil at 1.4 mg/kg/day); animal info (5 week old male SHR and Wistar Kyoto rats); pumps replaced every 4 weeks; long-term study; enzyme inhibitor (Pyridostigmine Bromide inhibits plasma acetylcholinesterase activity; Donepezil inhibits brain acetylcholinesterase activity); cardiovascular; Four pump replacements were performed; BP measured via Tail-cuff method;

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

Agents: Everolimus **Vehicle:** DMSO; Propylene glycol; Ethanol, buffered; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** 12 weeks;

ALZET Comments: "Dose (1.5 mg/kg/day); 50% DMSO, 40% propylene glycol, 10% absolute ethanol supplemented with 0.4 µl/ml Tween 20 used; animal info (6 weeks, female, ApoE^{-/-}Fbn1(C1039G^{+/-})); pumps replaced every 4 weeks; long-term study; cardiovascular; ""Four out of 12 control animals died abruptly during the experiment, which is a phenomenon that started at 21 weeks of WD (corresponding with 9 weeks of treatment with vehicle solution)."" p.72; Therapeutic indication (stabilizes atherosclerotic plaques and reduce atherosclerosis-driven complications such as cardiac hypertrophy and fibrosis, brain hypoxia and sudden death); "

Q9769: A. Kumar, *et al.* Alpha-calcitonin gene-related peptide prevents pressure-overload induced heart failure: role of apoptosis and oxidative stress. *Physiological Reports* 2019;7(21):e14269

Agents: Alpha-calcitonin gene-related peptide **Route:** SC; **Species:** Mice; **Pump:** 1007D; **Duration:** 28 days;
ALZET Comments: Dose (4 mg/kg b.w/day per mouse); Controls received mp w/ vehicle; animal info (Eight-week-old male C57/BL6 mice); pumps replaced every 7 days; Alpha-calcitonin gene-related peptide aka a-CGRP; cardiovascular;



Q7618: M. Koshibu, *et al.* Antiatherogenic effects of liraglutide in hyperglycemic apolipoprotein E-null mice via AMP-activated protein kinase-independent mechanisms. *American Journal of Physiology Gastrointestinal and Liver Physiology* 2019;316(5):E895-E907

Agents: liraglutide; dorsomorphin **Vehicle:** Saline; **Route:** SC; **Species:** Mice (hyperglycemic); **Pump:** 1002; **Duration:** 4 weeks; **ALZET Comments:** Dose ((liraglutide 17, 107 nmol/kg/day), (dorsomorphin 52.9 µmol/kg/day); Controls were normoglycemic and received mp w/ vehicle; animal info (20 week, male, ApoE-/-); pumps replaced every 2 weeks; liraglutide is a Glucagon-like peptide-1 receptor agonist; dorsomorphin is an enzyme inhibitor (AMPK); cardiovascular; Therapeutic indication (AMPK-independent anti-atherogenic effects through reduced lipid deposition);

Q8316: D. Knappe, *et al.* Continuous Subcutaneous Delivery of Proline-Rich Antimicrobial Peptide Api137 Provides Superior Efficacy to Intravenous Administration in a Mouse Infection Model. *Front Microbiol* 2019;10(2283

Agents: Api137 **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 2001D; **Duration:** 48 hours; **ALZET Comments:** Dose (6.4, 12.8, and 19.2 mg/kg/h); dose-response (tolerance study); 0.9% saline used; animal info (Female CD-1 mice, 18–26 g.); functionality of mp verified by residual volume; pumps replaced after 48 hours; apidaecin derivative aka Api137; peptides;

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

Agents: Murine Oncostatin M **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** 16 weeks; **ALZET Comments:** Dose (10 or 30 µg/kg/day); Controls received mp w/ vehicle; animal info (female APOE3Leiden.CETP transgenic mice (10–15 weeks of age)); pumps replaced every 5.5 weeks; long-term study; Murine Oncostatin M aka Murine OSM; cardiovascular;

Q7626: S. Kalavalapalli, *et al.* Impact of exenatide on mitochondrial lipid metabolism in mice with nonalcoholic steatohepatitis. *J Endocrinol* 2019;241(3):293-305

Agents: exenatide **Vehicle:** Saline, DMSO Buffered; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 8 weeks; **ALZET Comments:** Dose (30µg/kg/day); 10% DMSO in saline used; Controls received mp w/ vehicle; animal info (7 weeks, male, C57BL/6); pumps replaced every 4 weeks; Exenatide (Exe) is a GLP-1 receptor agonist; pump model not stated but maximum use duration listed at 4 weeks; Therapeutic indication (may improve nonalcoholic steatohepatitis as it ameliorates mitochondrial TCA cycle flux while decreasing insulin resistance, steatosis and hepatocyte lipotoxicity);

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;

Q7526: A. B. Hawkey, *et al.* Paternal nicotine exposure in rats produces long-lasting neurobehavioral effects in the offspring. *Neurotoxicol Teratol* 2019;74(106808

Agents: Nicotine **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2ML4; **Duration:** 56 days; **ALZET Comments:** Dose (2 mg/kg/day); Controls received mp w/ vehicle; animal info (Male, Sprague Dawley, 200-250 g); behavioral testing (Housing and behavioral test, Elevated plus maze test, Figure 8 apparatus test); pumps replaced every 4 weeks; dependence;

Q7525: C. Hartmann, *et al.* Angiotensin II-induced hypertension increases the mutant frequency in rat kidney. *Archives of Toxicology* 2019;93(7):2045-2055

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2004, 2006; **Duration:** 20 weeks; **ALZET Comments:** Dose (400 ug/kg/day); Controls received mp w/ PBS; animal info (5-8 weeks old, Male); pumps replaced every 7 weeks; long-term study; cardiovascular;



- Q8002:** X. Gao, *et al.* Interaction of N-acetyl-seryl-aspartyl-lysyl-proline with the angiotensin-converting enzyme 2-angiotensin-(1-7)-Mas axis attenuates pulmonary fibrosis in silicotic rats. *Exp Physiol* 2019;104(10):1562-1574
Agents: Antifibrotic peptide acetyl-seryl-aspartyl-lysyl-proline **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2ML4;
Duration: 8 weeks;
ALZET Comments: Dose (800 mg/kg/day); 0.9% Saline used; Controls received mp w/ vehicle; animal info (Male, Wistar, 3 week sold, 80 g); pumps replaced every 4 weeks; Antifibrotic peptide acetyl-seryl-aspartyl-lysyl-proline aka Ac-SDKP ; peptides; cardiovascular;
- Q7996:** J. C. B. Ferreira, *et al.* A selective inhibitor of mitofusin 1-betaIIPKC association improves heart failure outcome in rats. *Nat Commun* 2019;10(1):329
Agents: Global β IIPKC inhibitor; TAT47-57-SAM β A peptide Mfn1- β IIPKC inhibitor **Vehicle:** Not stated; **Route:** SC; **Species:** Rat;
Pump: Not stated; **Duration:** 6 weeks;
ALZET Comments: Dose (3 mg/kg/day); animal info (Male); pumps replaced every 2 weeks; cardiovascular;
- Q7990:** J. Ezpeleta, *et al.* Production of seedable Amyloid-beta peptides in model of prion diseases upon PrP(Sc)-induced PDK1 overactivation. *Nat Commun* 2019;10(1):3442
Agents: BX912 **Vehicle:** DMSO; **Route:** SC; **Species:** Mice; **Pump:** 2002; **Duration:** Not stated;
ALZET Comments: Dose (5 mg/kg/day); 1% used; animal info (Male, C57BL/6J, 8 weeks old); pumps replaced every 4 weeks; PDK1 inhibitor aka BX912 ; enzyme inhibitor (PDK1 inhibitor); neurodegenerative (Cruetzfeldt-Jakob, Gertsmann-Strasussler-Scheinker disease);
- Q7282:** D. A. Duricki, *et al.* Stroke Recovery in Rats after 24-Hour-Delayed Intramuscular Neurotrophin-3 Infusion. *Annals of Oncology* 2019;85(1):32-46
Agents: Neurotrophin-3, recomb. human **Vehicle:** Saline; bovine serum, albumin; **Route:** SC; **Species:** Rat; **Pump:** 2ML2;
Duration: 4 weeks;
ALZET Comments: Dose (100 μ g/ml); 0.1% bovine serum albumin used; Controls received mp w/ vehicle; animal info (Lister Hooded outbred female rats, ~4 months old, 200-300g); pumps replaced every 2 weeks; ischemia (ischemic stroke); no stress (see pg. 34); Pumps made MRI compatible
- Q8716:** S. P. Chelko, *et al.* Therapeutic Modulation of the Immune Response in Arrhythmogenic Cardiomyopathy. *Circulation* 2019;140(18):1491-1505
Agents: Small-molecule inhibitor of nuclear factor- κ B signaling **Vehicle:** DMSO; **Route:** SC; **Species:** Mice; **Pump:** 1004;
Duration: 8 weeks;
ALZET Comments: Dose (5 mg/kg/day); Controls received mp w/ vehicle; animal info (8 weeks old); pumps replaced every 4 weeks; Small-molecule inhibitor of nuclear factor- κ B signaling aka Bay 11-7082 ;
- Q7275:** A. N. Cheema, *et al.* Nicotine impairs intra-substance tendon healing after full thickness injury in a rat model. *J Orthop Res* 2019;37(1):94-103
Agents: Nicotine **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2ML4; **Duration:** 3 months;
ALZET Comments: Dose (61 mg/mL); Controls received mp w/ vehicle; animal info (adult male Sprague-Dawley rats 400-450g); pumps replaced every 4 weeks;
- Q7949:** E. Butti, *et al.* Neural Stem Cells of the Subventricular Zone Contribute to Neuroprotection of the Corpus Callosum after Cuprizone-Induced Demyelination. *J Neurosci* 2019;39(28):5481-5492
Agents: ganciclovir **Vehicle:** water, double distilled; **Route:** SC; **Species:** Mice; **Pump:** 2002; **Duration:** 4 weeks;
ALZET Comments: Dose (100 mg/kg/d); Controls were WT and received mp w/ agent; animal info (6-8 weeks, female, C57BL/6 and NestinTK); pumps replaced every 2 weeks; neurodegenerative (multiple sclerosis);



Q9161: E. Blacher, *et al.* Potential roles of gut microbiome and metabolites in modulating ALS in mice. *Nature* 2019;572(7770):474-480

Agents: Nicotinamide; Phenol Sulfate **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** 4 months;
ALZET Comments: Dose (NAM- 30.8 mg/kg/week or 49.28 mg/kg/week); Controls received mp w/ vehicle; animal info (40-180 days old); pumps replaced every 4 weeks; Nicotinamide aka NAM ; neurodegenerative (Amyotrophic Lateral Sclerosis);

Q8163: Z. Bao, *et al.* Promotion of microglial phagocytosis by tuftsin stimulates remyelination in experimental autoimmune encephalomyelitis. *Mol Med Rep* 2019;20(6):5190-5196

Agents: Tuftsin **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** Not stated; **Duration:** 28 days;
ALZET Comments: Dose (0.25 ml/h); Controls received mp w/ vehicle; animal info (adult (8-9 weeks old and 18-20 g) female c57Bl/6 mice); pumps replaced on day 15; neurodegenerative (determine if the effect of microglia could promote the recovery of EAE and attenuate symptoms in EAE);

Q7370: B. Balla, *et al.* Long-term selective estrogen receptor-beta agonist treatment modulates gene expression in bone and bone marrow of ovariectomized rats. *J Steroid Biochem Mol Biol* 2019;188(185-194

Agents: Diarylpropionitrile **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** 2004; **Duration:** 84 days;
ALZET Comments: Dose (20 µg/day); Controls received mp w/ vehicle; animal info (Female, Harlan-Wistar, 8 months old); pumps replaced every 4 weeks; dependence;

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

Agents: Angiotensin II; bradykinin **Vehicle:** Saline; **Route:** SC; kidney (left renal medulla); **Species:** Rat; **Pump:** 2002; **Duration:** 14 days; 28 days;

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

Q7366: G. Aubertin, *et al.* Effects of imidazoline-like drugs on liver and adipose tissues, and their role in preventing obesity and associated cardio-metabolic disorders. *Int J Obes (Lond)* 2019;

Agents: LNP599 **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** 2ML4; **Duration:** 12 weeks;
ALZET Comments: Dose (10 mg/kg/day); animal info (Male, 12 week old, Zucker); pumps replaced every 4 weeks; LNP599 aka 3-chloro-2-methyl-phenyl)-(4-methyl-4,5-dihydro-3H-pyrrol-2-yl)-amine hydrochloride); enzyme inhibitor (selective agonists of the sympatho-inhibitory I1 imidazoline receptors (LNP ligands)); cardiovascular