



Recent References (2015-2019) on the Administration of Enzyme Inhibitors Using ALZET® Osmotic Pumps

Q6948: Y. Zhang, *et al.* Hyperbaric oxygen produces a nitric oxide synthase-regulated anti-allodynic effect in rats with paclitaxel-induced neuropathic pain. *Brain Res* 2019;

ALZET Comments: S-Methyl-L-thiocitrulline; Saline; SC; Rat; 1007D; 7 days; Dose (0.5 ± 0.1 µL/hr/day); 0.9% saline used; animal info (male Sprague Dawley); post op. care (Ampicillin, meloxicam); enzyme inhibitor (S-Methyl-L-thiocitrulline is a neuronal nitric oxide synthase (nNOS) inhibitor); Brain coordinates (AP-1.0 mm, ML -2.0 mm, DV -3.5mm from bregma); bilateral cannula used; dependence;

Q6949: T. Zera, *et al.* Microglia and brain angiotensin type 1 receptors are involved in desensitising baroreflex by intracerebroventricular hypertonic saline in male Sprague-Dawley rats. *Auton Neurosci* 2019;217(49-57

ALZET Comments: Minocycline, Losartan; Saline, iso-osmotic, Saline, hyperosmotic; CSF/CNS; Rat; 2ML2; 2 weeks; Dose (Minocycline-5 µg/h; Losartan- 12.5 µg/h); 0.9% isosmotic saline with minocycline, 5% Hyperosmotic saline with Losartan used; animal info (Normotensive adult male Sprague-Dawley rats); enzyme inhibitor (microglia); ALZET brain infusion kit 2 used; Brain coordinates (1.2mm posterior to bregma, -1.8mm laterolateral from sagittal suture, diameter 0.5 mm) bilateral cannula used; cyanoacrylate adhesive; cardiovascular;

Q7038: G. Zadra, *et al.* Inhibition of de novo lipogenesis targets androgen receptor signaling in castration-resistant prostate cancer. *Proc Natl Acad Sci U S A* 2019;116(2):631-640

ALZET Comments: IPI-9119; 1-methyl-2-pyrrolidinone; sodium phosphate buffer; SC; Mice; 2002; 4 weeks; Dose (100 mg/mL); 20% 1-methyl-2-pyrrolidinone used; enzyme inhibitor (fatty acid synthase); cancer (prostate); no stress: Mice did not show any signs of toxicity, stress, weight loss, or changes in feeding behavior. (see pg. 635);

Q6890: X. Wang, *et al.* Liver-Selective MMP-9 Inhibition in the Rat Eliminates Ischemia-Reperfusion Injury and Accelerates Liver Regeneration. *Hepatology* 2019;69(1):314-328

ALZET Comments: 2-[(4-biphenylsulfonyl)amino]-3-phenyl-propionic acid; IV (inferior mesenteric vein); IP; Rat (transgenic); 2ML1; 2001; 7 days; Dose (100 µg/h); animal info (Male Lew-Tg(CAG-EGFP)ys rats); enzyme inhibitor (Matrix metalloproteinases 2/9);

R0374: C. Shimbori, *et al.* The Role of Mast Cells in the Pathophysiology of Pulmonary Fibrosis. 2019;135-173

ALZET Comments: TY-51469, H4R antagonist, MK-571, PD123319; SC; Mice; Dose: TY-51469 (0.1 or 1.0 mg/kg/day), H4R antagonist (40 mg/kg); PD123319 (0.5 or 5 mg/kg/d); animal info (ICR, C57BL/6 mice); TY-51469 is a Chymase inhibitor; enzyme inhibitor (Chymase); cardiovascular;

Q6168: R. C. Nayak, *et al.* The signaling axis atypical protein kinase C lambda/iota-Satb2 mediates leukemic transformation of B-cell progenitors. *Nat Commun* 2019;10(1):1-16

ALZET Comments: Ro-31-8220; imatinib; PBS; SC; Mice (transgenic); 2002; 14 days; Dose (Ro-31-8220 (1 mM); imatinib (0.5 mM)); Controls received mp w/ vehicle; animal info (6-12 week old transgenic mice); enzyme inhibitor (Protein Kinase C);

Q7006: R. Malik, *et al.* The molecular tweezer CLR01 inhibits aberrant superoxide dismutase 1 (SOD1) self-assembly in vitro and in the G93A-SOD1 mouse model of ALS. *J Biol Chem* 2019;294(10):3501-3513

ALZET Comments: CLR01; Saline; SC; Mice; 1004; 6 weeks; Dose (0, 0.5, or 5.0 mg/kg); 0.9% saline used; Controls received mp w/ vehicle; animal info (Transgenic B6SJL-Tg mice); behavioral testing (grip-strength test, rotarod test); half-life: 1-2 hours (p.5); CLR01 is a broad-spectrum inhibitor of the self-assembly and toxicity of amyloid proteins; enzyme inhibitor (superoxide dismutase 1 (SOD1); neurodegenerative (amyotrophic lateral sclerosis);

Q5331: H. A. Lee, *et al.* Histone deacetylase inhibitor MGCD0103 protects the pancreas from streptozotocin-induced oxidative stress and beta-cell death. *Biomed Pharmacother* 2019;109(921-929

ALZET Comments: MGCD0103; SC; Rat; 4 weeks; Dose (10 µg/day); animal info (Male Sprague-Dawley rats (6-week old and about 200 g)); enzyme inhibitor (histone deacetylase inhibitor);



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

ALZET Comments: Angiotensin II; B-aminopropionitrile; Saline; SC; Mice; 1002; 1 week; 6 weeks; 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;.

Q7082: Gartung A, *et al.* Suppression of chemotherapy-induced cytokine/lipid mediator surge and ovarian cancer by a dual COX-2/sEH inhibitor. *Proceedings of the National Academy of Sciences* 2019;116(5):1698-1703

ALZET Comments: PTUPB; IP; Mice (SCID); 4 weeks; Dose (30 mg/kg/d); animal info (6-wk-old female C57BL/6 or SCID mice); PTUPB aka 4-(5-phenyl-3-{3-[3-(4-trifluoromethyl-phenyl)-ureido]-propyl}-pyrazol-1-yl) benzenesulfonamide is a dual COX-2/sEH inhibitor; enzyme inhibitor (cyclooxygenase-2 and soluble epoxide hydrolase); cancer (ovarian);

Q6882: J. C. B. Ferreira, *et al.* A selective inhibitor of mitofusin 1-betaIIIPKC association improves heart failure outcome in rats. *Nat Commun* 2019;10(1):329

ALZET Comments: β IIV5-3; TAT47–57- β IIV5-3 peptide; TAT47–57-SAM β A peptide; TAT47–57-carrier peptide; SC; Rat; 6 weeks; Dose (3 mg/kg/day); animal info (Heart failure induced male rats, aged 16–22 weeks); pumps replaced every 2 weeks; enzyme inhibitor (global β IIIPKC; Mfn1- β IIIPKC inhibitor); peptides; cardiovascular; Therapeutic indication (heart failure);

Q7036: X. Zhang, *et al.* Sustained stimulation of beta2- and beta3-adrenergic receptors leads to persistent functional pain and neuroinflammation. *Brain Behav Immun* 2018;73(520-532)

ALZET Comments: OR486, ICI118551, SR59230A, Etanercept, SB203580, and U0126; DMSO, ethanol, saline; SC; Rat; 2002; 14 days; Dose (OR486 (15 mg/kg/day), ICI118551 (1.5 mg/kg/day), SR59230A (1.67 mg/kg/day)), SB203580 (12 μ g/day), U0126 (12 μ g/day) and Etanercept (10 μ g/day); OR486 was dissolved in DMSO/ethanol/0.9% saline at 5:2:3 ratio. ICI118551 and SR59230A were dissolved in DMSO and 0.9% saline at 1:4 ratio; Etanercept, SB203580, and U0126 were dissolved in DMSO and 0.9% saline at 1:1 ratio. Controls received mp w/ vehicle; OR486 is a COMT inhibitor, ICI118551 is a β 2AR antagonist; SR59230A is a β 3AR antagonist; enzyme inhibitor (catechol-O-methyltransferase); delayed delivery (the Lynch method was used to delay delivery of ICI118551+SR59230A until day 7 using coiled PE50 polyethylene tubing);.

Q7040: S. P. Yoon, *et al.* Exogenous CGRP upregulates profibrogenic growth factors through PKC/JNK signaling pathway in kidney proximal tubular cells. *Cell Biol Toxicol* 2018;34(4):251-262

ALZET Comments: Calcitonin gene-related peptide, SP600125, chelerythrine, CGRP8-37 receptor antagonist; Saline; DMSO; IP, Kidney (cortical region); Mice; Dose (30 ng/kg/d); 10% DMSO used; Controls received mp w/ vehicle; animal info (Male C57BL/6 mice aged 8 to 10 weeks); CGRP is a 37-amino acid neuropeptide; enzyme inhibitor (SP600125 is a c-Jun Nterminal protein kinase (JNK), and chelerythrine is a specific protein kinase C (PKC) inhibitor); CGRP infused to the cortical region of the denervated kidney via an ALZET intrathecal catheter. The catheter was anchored to the obstructed ureter, and osmotic pump placed SC; some mice were given CGRP8-37 (120 μ g/kg/d), SP600125 (30 mg/kg/d), chelerythrine (5 mg/kg/d) or vehicle (0.9% saline or 10% DMSO in 0.9% saline) via IP pump.

Q7158: K. Yabiku, *et al.* Reintroducing testosterone in the db/db mouse partially restores normal glucose metabolism and insulin resistance in a leptin-independent manner. *BMC Endocr Disord* 2018;18(1):38

ALZET Comments: Anastrozole; Saline, hydroxypropylcellulose; SC; Mice; Dose (200 μ g/day); 0.3% hydroxypropylcellulose used; animal info (4-week-old castrated mice); enzyme inhibitor (aromatase);.

Q6907: D. Xu, *et al.* Participation of pro-inflammatory cytokines in neuropathic pain evoked by chemotherapeutic oxaliplatin via central GABAergic pathway. *Mol Pain* 2018;14(1744806918783535)

ALZET Comments: Interleukin 1 receptor antagonist; SC144; etanercept; CSF, artificial; CSF/CNS (periaqueductal gray); Rat; 1003D; 3 days; Controls received mp w/ vehicle; animal info (Adult male Sprague-Dawley rats weighing 200–250 g); enzyme inhibitor (IL-1Ra is a IL-1b receptor antagonist; SC144 is a gp130 antagonist to block IL-6R, and etanercept is a TNF-a receptor antagonist); ALZET brain infusion kit used; Brain coordinates (7.6 mm posterior to the bregma, 0.65 mm lateral to the midline, and 4.2 mm ventral to the brain surface);.

Q7245: M. Tsoli, *et al.* Dual targeting of mitochondrial function and mTOR pathway as



a therapeutic strategy for diffuse intrinsic pontine glioma. *Oncotarget* 2018;9(7541-7556

ALZET Comments: Temsirolimus; Phenylarsonous acid, 4-(N-(S-penicillaminylacetyl)-amino); Saline; SC, IP; Mice; 2002; 4 weeks; Dose (PEMAO-3 mg/kg/day, Temsirolimus-10 mg/kg/day and 5 mg/kg/day); Controls received mp w/ vehicle; animal info (5 week-old, female, NOD/SCID); pumps replaced every 2 weeks; 4-(N-(S-penicillaminylacetyl)-amino)phenylarsonous acid aka Anti-cancer compound (PENAO); enzyme inhibitor (PENAO Inhibits adenine nucleotide translocase, Temsirolimus inhibits mTOR; cancer (Glioma));

Q7155: Q. Sun, *et al.* Central IKK2 Inhibition Ameliorates Air Pollution-Mediated Hepatic Glucose and Lipid Metabolism Dysfunction in Mice With Type II Diabetes. *Toxicol Sci* 2018;164(1):240-249

ALZET Comments: IMD-0354; DMSO; CSF/CNS (right lateral ventricle); Mice; 1004; 4 weeks; Dose (600 ng/day); Controls received mp w/ vehicle; animal info (7 week old KKAY mice); enzyme inhibitor (Inhibitor kappa B kinase 2); Brain coordinates (b0.02 posterior and _0.95 lateral to Bregma and extended 2.75 mm below the skull);

Q7048: K. J. Shaw, *et al.* In Vitro and In Vivo Evaluation of APX001A/APX001 and Other Gwt1 Inhibitors against Cryptococcus. *Antimicrob Agents Chemother* 2018;62(8):

ALZET Comments: Aminobenzotriazole, 1-; Mice; 14 days; Dose (20 or 60 mg); animal info (male CD-1 mice); enzyme inhibitor (cytochrome P450);

Q7053: K. R. Qurania, *et al.* Systemic inhibition of Janus kinase induces browning of white adipose tissue and ameliorates obesity-related metabolic disorders. *Biochem Biophys Res Commun* 2018;502(1):123-128

ALZET Comments: Tofacitinib; Saline; SC; Mice; 10 weeks; Dose (100 ug/day); Controls received mp w/ vehicle; animal info (C57BL6 mice); pumps replaced every 35 days; long-term study; tofacitinib is a JAK3 inhibitor; enzyme inhibitor (JAK3).

Q6284: L. Penfold, *et al.* CAMKK2 Promotes Prostate Cancer Independently of AMPK via Increased Lipogenesis. *Cancer Res* 2018;78(24):6747-6761

ALZET Comments: STO-609; Sodium Hydroxide; SC; Mice (transgenic); 2004, 2006; 4, 6 weeks; Dose (6, 15, 30 mg/mL); 200 mmol/L Sodium hydroxide used; animal info (13 week old WT, Pten-/-, Prkab1-/-; Camkk2-/- mice); enzyme inhibitor (calcium/calmodulin-dependent protein kinase kinase 2 (CAMKK2));

Q7064: T. Mori, *et al.* Lnk/Sh2b3 Regulates Adipose Inflammation and Glucose Tolerance through Group 1 ILCs. *Cell Rep* 2018;24(7):1830-1841

ALZET Comments: Tofacitinib; DMSO; PEG 300; Water; SC; Mice; 6 weeks; Dose (30 mg/kg/day); 50% DMSO, 10% PEG 300, 40% water used; enzyme inhibitor (JAK);

Q7232: T. Miladinovic, *et al.* Functional effects of TrkA inhibition on system xC(-)-mediated glutamate release and cancer-induced bone pain. *Mol Pain* 2018;14(1744806918776467

ALZET Comments: AG879; DMSO; IP; Mice; 1002; Dose (5 mg/kg/day); animal info (immunocompetent female BALB/c mice, 4 to 6 weeks old, 20g); AG879 is a TrkA inhibitor; enzyme inhibitor (Tyrosine kinase A); cancer (Breast cancer);

Q6913: Michael Mousseau, *et al.* Microglial pannexin-1 channel activation is a spinal determinant of joint pain. *Science Advances* 2018;4(8):

ALZET Comments: A740003; mimetic peptide inhibitor of Panx1; 10panx; scrpanx; Mac1-saporin; Saporin; CSF/CNS (intrathecal); Rat; 7 days; animal info (adult male Sprague-Dawley rats); enzyme inhibitor (P2X7R antagonist A740003); Therapeutic indication (arthritis);

Q7229: P. J. Meakin, *et al.* The beta secretase BACE1 regulates the expression of insulin receptor in the liver. *Nat Commun* 2018;9(1):1306

ALZET Comments: C3; DMSO, PBS; SC; Mice; 2004; 28 days; Dose (10 mg/kg/day); DMSO:PBS, 50:50 used; Controls received mp w/ vehicle; animal info (Male db/db mice 8 weeks old-); enzyme inhibitor (BACE1);

Q7228: P. J. Meakin, *et al.* Bace1-dependent amyloid processing regulates hypothalamic leptin sensitivity in obese mice. *Sci Rep* 2018;8(1):55



ALZET Comments: M-3, Scrambled Peptide, Amyloid protein, beta(1-42); DMSO, PBS; SC, CSF/CNS (lateral ventricle); Mice; 2004; 14, 21, or 28 days; Dose (10 mg/kg/day); 50:50 DMSO:PBS used; Controls received mp w/ vehicle; animal info (C57BL/6 mice, at least 28-30 weeks old); Bace1 Inhibitor aka M-3; enzyme inhibitor (Bace1 inhibitor);.

Q7067: W. L. Lin, *et al.* Neural mechanism of angiotensin-converting enzyme inhibitors in improving heart rate variability and sleep disturbance after myocardial infarction. *Sleep Med* 2018;48(61-69)

ALZET Comments: Captopril; PEG 300; DMSO; SC; Rat; 2002; 2 weeks; Dose (30 mg/kg/d); Controls received mp w/ vehicle; enzyme inhibitor (ACE);.

Q7151: D. S. Lee, *et al.* PDI-mediated S-nitrosylation of DRP1 facilitates DRP1-S616 phosphorylation and mitochondrial fission in CA1 neurons. *Cell Death Dis* 2018;9(9):869

ALZET Comments: RNA, small interfering (protein disulfide isomerase), L-NAME; Saline; CSF/CNS (right lateral ventricle); Rats; 1007D; Dose (15 µg/µl L-NAME); animal info (7-week-old male Sprague-Dawley rats); Nw-nitro-L-arginine methyl ester hydrochloride aka L-name; enzyme inhibitor (protein disulfide isomerase); ALZET brain infusion kit 1 used; Brain coordinates (right lateral ventricle, 1mm posterior; 1.5 mm lateral; 3.5 mm depth from bregma);.

Q7195: H. Koblisch, *et al.* Preclinical characterization of INCB053914, a novel pan-PIM kinase inhibitor, alone and in combination with anticancer agents, in models of hematologic malignancies. *PLoS One* 2018;13(6):e0199108

ALZET Comments: INCB053914; SC; Mice; 2001, 2002; 7-19 days Dose (0.5 ul/h/day); animal info (female, 5-9 weeks old); comparison of twice daily oral gavage vs mp; INCB053914 is a Pan-PIM kinase inhibitor; enzyme inhibitor (pan-PIM kinase); Therapeutic indication (cancer); .

Q7012: H. Koblisch, *et al.* Preclinical characterization of INCB053914, a novel pan-PIM kinase inhibitor, alone and in combination with anticancer agents, in models of hematologic malignancies. *PLoS One* 2018;13(6):e0199108

ALZET Comments: INCB053914; Dimethylacetamide, methylcellulose; SC; Mice; 7-19 days; 5% dimethylacetamide used; 0.5% w/v methylcellulose used; animal info (5-9 weeks of age); comparison of oral gavage 2X per day vs mp; enzyme inhibitor (adenosine triphosphate-competitive pan-PIM kinase); Alzet osmotic pumps flow rate 0.5 µl/h for efficacy studies and 1.0 µl/h for pharmacodynamic studies;.

Q7191: J. E. Kim, *et al.* P2RX7-MAPK1/2-SP1 axis inhibits MTOR independent HSPB1-mediated astroglial autophagy. *Cell Death Dis* 2018;9(5):546

ALZET Comments: BzATP, OxATP, A740003, Compound C, 3-chloroacetyl indole, Mithramycin A, U0126, RNA, small interfering (Heat shock protein B1); CSF/CNS (lateral ventricle); Mice; 1007D; 7 days; Dose: BzATP (5 mM), OxATP (5 mM) A740003 (10 µM), Comp C (100 nM), 3CAI (25 µM), MMA (25 µM), U0126 (25 µM); animal info (Male, C57BL/6J, 25-30 g, 60-90 days old); BzATP is a P2RX7 agonist, OxATP and A740003 are P2RX7 antagonists; enzyme inhibitor (mitogen-activated protein kinase 1/2); ALZET brain infusion kit 3 used; Brain coordinates (lateral cerebral ventricle 1.0mm lateral to bregma); dependence; no stress: doses were well tolerated, and no signs of neurotoxicity (hind-limb paralysis, vocalization, food intake, or neuroanatomical damage) were observed;.

Q7190: J. E. Kim, *et al.* Nucleocytoplasmic p27(Kip1) Export Is Required for ERK1/2-Mediated Reactive Astroglial Proliferation Following Status Epilepticus. *Front Cell Neurosci* 2018;12(152)

ALZET Comments: U0126, Leptomycin B, Roscovitine; CSF/CNS (lateral ventricle); Mice; 1007D; 7 days; Dose (LMB- 30 mg/ml, U0126- 25 uM, roscovitine-25 uM); animal info (Adult, male, Sprague-Dawley, 250-280 g); U0126 is a Selective ERK1/2 inhibitor, Leptomycin B is an inhibitor of chromosomal maintenance 1; enzyme inhibitor (extracellular signal receptor-activated kinases 1/2); ALZET brain infusion kit 1 used; Brain coordinates (1 mm posterior; 1.5 mm lateral; 3.5 mm depth to bregma); neurodegenerative (Epilepsy);.

Q6924: J. E. Kim, *et al.* Differential Roles of Mitochondrial Translocation of Active Caspase-3 and HMGB1 in Neuronal Death Induced by Status Epilepticus. *Front Cell Neurosci* 2018;12(301)

ALZET Comments: Mdivi-1; WY14643; CSF/CNS (right lateral ventricle); Rat; 1007D; Controls received mp w/ vehicle; animal info (7 week old male Sprague-Dawley rats); WY14643 is an activator of mitochondrial fission; enzyme inhibitor (Mdivi-1 is an inhibitor of mitochondrial fission); ALZET brain infusion kit 1 used; Brain coordinates (1 mm posterior; 1.5 mm lateral; 3.5 mm depth to the Bregma); Therapeutic indication (seizure);.



Q6927: A. R. Jeon, *et al.* PDI Knockdown Inhibits Seizure Activity in Acute Seizure and Chronic Epilepsy Rat Models via S-Nitrosylation-Independent Thiolation on NMDA Receptor. *Front Cell Neurosci* 2018;12(438)

ALZET Comments: RNA, small interfering; L-NAME; PACMA31; Saline; CSF/CNS (Right lateral ventricle); Rat; 1007D; 1 week; Controls received mp w/ vehicle; animal info (7 week old male Sprague-Dawley rats); enzyme inhibitor (PACMA31 is a selective PDI inhibitor); ALZET brain infusion kit 1 used; Brain coordinates (1 mm posterior; 1.5 mm lateral; 3.5 mm depth from bregma); Therapeutic indication (seizure);.

Q7081: S. A. Jannetti, *et al.* PARP-1-Targeted Radiotherapy in Mouse Models of Glioblastoma. *J Nucl Med* 2018;59(8):1225-1233

ALZET Comments: 131I-poly(ADP-ribose) polymerase inhibitor (131I-PARPi), radio-isotope (131I); PEG-300, saline, 131I tracer; CSF/CNS; Mice; 1003D; 5 days; 30% PEG-300 used; animal info (6 to 8-week-old female athymic nude CrTac:NCr-Fo mice); 131I-PARPi is an 131I-labeled poly(ADP-ribose) polymerase 1 enzyme inhibitor; ALZET brain infusion kit 3 used; Brain coordinates (2 mm lateral and 1 mm anterior to the bregma); cancer (glioblastoma);.

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/6NcrI mice (~25 g)); functionality of mp verified by plasma levels; celecoxib is a cyclooxygenase-2 (COX-2) selective inhibitor; enzyme inhibitor (cyclooxygenase-2, soluble epoxide hydrolase);.

Q7026: P. M. Grace, *et al.* Protraction of neuropathic pain by morphine is mediated by spinal damage associated molecular patterns (DAMPs) in male rats. *Brain Behav Immun* 2018;72(45-50)

ALZET Comments: naloxone; A438079; YVAD-cmk, Ac-; CSF/CNS (intrathecal); Rat; 2001; Dose (naloxone: 60 ug/h; A438079: 30 ng/h; ac-YVAD-cmk: 1 ug/h); animal info (10-12 week old male Fischer 344 rats); enzyme inhibitor (caspase-1);.

Q7137: K. Fujita, *et al.* Targeting Tyro3 ameliorates a model of PGRN-mutant FTLTDP via tau-mediated synaptic pathology. *Nat Commun* 2018;9(1):433

ALZET Comments: Gö6976; PBS; CSF/CNS (intrathecal); Mouse; 2006; 2 weeks; Dose (0.15 ul/h); animal info (PGRN-KI and C57BL/6J, 10-12 weeks old); behavioral testing (Morris water maze test, Fear-conditioning test, Probe test, Rotarod test, Open-field test, Light-dark box test); enzyme inhibitor (PKC inhibitor); gene therapy;.

Q7134: S. J. Fliesler, *et al.* Prevention of Retinal Degeneration in a Rat Model of Smith-Lemli-Opitz Syndrome. *Sci Rep* 2018;8(1):1286

ALZET Comments: AY9944; SC; Rat; 2ML4; 2ML4; animal info (Pregnant, adult, female, Sprague Dawley); DHCR7 aka 7-dehydrocholesterol reductase; enzyme inhibitor (DHCR7 inhibitor); dependence;.

Q7032: E. C. El Hajj, *et al.* Inhibitor of lysyl oxidase improves cardiac function and the collagen/MMP profile in response to volume overload. *Am J Physiol Heart Circ Physiol* 2018;315(3):H463-H473

ALZET Comments: Aminopropionitrile, beta-; Saline; IP; Rat; Dose (100 mg/kg/d); Controls received mp w/ vehicle; animal info (8-9-wk-old male Sprague-Dawley rats weighing ~250 g); enzyme inhibitor (lysyl oxidase); cardiovascular;.

Q7115: S. Y. Cheon, *et al.* Apoptosis Signal-regulating Kinase 1 Silencing on Astroglial Inflammasomes in an Experimental Model of Ischemic Stroke. *Neuroscience* 2018;390(218-230)

ALZET Comments: RNA, small interfering (ASK1); siPORTNeoFX Transfection agent; CSF/CNS (left lateral ventricle); Mice; 1003D; 3 days; Dose (1 IL/h/ day); animal info (Adult, C57BL/6, male); enzyme inhibitor (apoptosis signal-regulating kinase 1); ALZET brain infusion kit used; ALZET brain infusion kit used; ischemia (Cerebral);.

Q7105: L. Cao, *et al.* Angiotensin II upregulates fibroblast-myofibroblast transition through Cx43-dependent CaMKII and TGF-beta1 signaling in neonatal rat cardiac fibroblasts. *Acta Biochim Biophys Sin (Shanghai)* 2018;50(9):843-852

ALZET Comments: Angiotensin II, Angiotensin (1-7), Autocamtide 2-related inhibitory peptide; Saline; SC; Rat; 2004; 4 weeks; Dose (Ang II- 500 ng/kg/min, Ang II plus Ang-(1-7)- 500 ng/kg/min. AngI I plus AIP- 100 ng/kg/min); Controls received mp w/



vehicle; animal info (male, Sprague-Dawley, 220 ± 20 g); AIP a specific CaMKII inhibitor; enzyme inhibitor (calmodulin-dependent protein kinase II); cardiovascular;

Q7101: M. W. Burke, *et al.* Perinatal MAO Inhibition Produces Long-Lasting Impairment of Serotonin Function in Offspring. *Brain Sci* 2018;8(6):

ALZET Comments: Clorgyline, deprenyl, L-; Saline; SC; Mice (pregnant); 1002, 2004; 6 weeks; Dose (0.25 mg/kg/day-deprenyl, 1 mg/kg/day-clorgyline, or both); 0.9% saline used; Controls received mp w/ vehicle; animal info (Male, MAO-A/B knockout); behavioral testing (Locomotor test); Model 1002 pumps replaced with Model 2004 pumps on E17; MOA aka Monoamine oxidase; enzyme inhibitor (clorgyline, L-deprenyl); dependence;

Q6552: J. Zhang, *et al.* MiR-146a promotes remyelination in a cuprizone model of demyelinating injury. *Neuroscience* 2017;348(252-263

ALZET Comments: RNA, micro 146a; CSF/CNS (corpus callosum); Mice; 1007D; 7 days; animal info (8-10 week old male C57BL/6 mice); enzyme inhibitor (interleukin-1 receptor-associated kinase 1); Brain coordinates (0 mm to the bregma, 1 mm bilateral to the midline, 1.8 mm depth from the surface of the cortex);

Q6801: W. Xu, *et al.* Chloride Co-transporter NKCC1 Inhibitor Bumetanide Enhances Neurogenesis and Behavioral Recovery in Rats After Experimental Stroke. *Mol Neurobiol* 2017;54(4):2406-2414

ALZET Comments: Bumetanide; Saline; CSF/CNS (lateral ventricle); Rat; 2004; 21 days; Dose (0.2 mg/kg/day); animal info (Adult male Wistar rats); enzyme inhibitor (selective Na⁺-K⁺-Cl⁻-co-transporter inhibitor); ALZET brain infusion kit used; Brain coordinates (AP-0.9 mm, ML+ 1.9 mm); ischemia (cerebral);

Q6533: L. Wang, *et al.* Inhibition of TRPC3 downregulates airway hyperresponsiveness, remodeling of OVA-sensitized mouse. *Biochem Biophys Res Commun* 2017;484(1):209-217

ALZET Comments: Carboxylate, Ethyl-1-(4-(2,3,3-trichloroacrylamide)phenyl)-5-(trifluoromethyl)-1H-pyrazole-4-; Saline; SC; Mice; 7 days; Dose (0.1 mg/kg/d); 0.9% saline used; Controls received mp w/ vehicle; animal info (6 week old BALB/c female mice); enzyme inhibitor (TRPC3); Therapeutic indication (asthma);

Q6525: H. Viswambharan, *et al.* Selective Enhancement of Insulin Sensitivity in the Endothelium In Vivo Reveals a Novel Proatherosclerotic Signaling Loop. *Circ Res* 2017;120(5):784-798

ALZET Comments: Gp91ds-tat; Mice (transgenic); 2004; 28 days; Dose (10 mg/kg/d); Controls received mp w/ control scrambled peptide; animal info (3-4 month old male C57BL/6J mice with endothelial cell-specific overexpression of the human insulin receptor using the Tie2 promoter-enhancer); enzyme inhibitor (Nox2); peptides;

Q6491: Tucheng Sun, *et al.* Imatinib inhibits angiotensin II-induced aortic dissection through the c-Abl signaling pathway. *International Journal for Clinical Experimental Pathology* 2017;10(5):5316-5324

ALZET Comments: Angiotensin II; Imatinib mesylate; Saline; SC; Mice; 1002; 2 weeks; Dose (Angiotensin II: 3 mg/kg/day; Angiotensin II + Imatinib mesylate: 60 mg/kg per day); 0.9% saline used; Controls received mp w/ vehicle; animal info (12-30 week old C57BL/6 male mice weighing 25-35g); enzyme inhibitor (tyrosine kinase, c-Abl); cardiovascular; Pump incorrectly noted as model #1014D.

Q6516: Y. Tokunaga, *et al.* Selective inhibitor of Wnt/beta-catenin/CBP signaling ameliorates hepatitis C virus-induced liver fibrosis in mouse model. *Sci Rep* 2017;7(1):325

ALZET Comments: PRI-724; PBS; SC; Mice (transgenic); 2006; 6 weeks; Dose (1mg/kg/day); animal info (HCV GT1b transgenic mice (MxCre+/-/CN2-29+/-)); enzyme inhibitor (β-catenin/CBP); Therapeutic indication (hepatitis C virus-induced liver fibrosis);

Q5974: H. Shimaoka, *et al.* A cytokine signal inhibitor for rheumatoid arthritis enhances cancer metastasis via depletion of NK cells in an experimental lung metastasis mouse model of colon cancer. *Oncol Lett* 2017;14(3):3019-3027

ALZET Comments: Tofacitinib; PEG 300; CSF/CNS; Mice; 2002; 6 days; animal info (Wild-type CD1) ; Controls received mp w/vehicle; dose (15 mg/kg/day); cancer; enzyme inhibitor (JAK3).



Q5981: S. Shen, *et al.* Regulation of transient receptor potential cation channel subfamily V1 protein synthesis by the phosphoinositide 3-kinase/Akt pathway in colonic hypersensitivity. *Exp Neurol* 2017;295(104-115

ALZET Comments: LY294002; DMSO, Saline; CSF/CNS (intrathecal); Rat; 2001; Controls received mp w/ vehicle; animal info (Sprague-dawley, 200g); enzyme inhibitor (PI3K); Dose (2.4 ug/rat/day or 90 ug/kg/body weight);.

Q5742: M. P. Serrano, *et al.* The proof-of-concept of ASS234: Peripherally administered ASS234 enters the central nervous system and reduces pathology in a male mouse model of Alzheimer disease. *J Psychiatry Neurosci* 2017;42(1):59-69

ALZET Comments: ASS234; PBS, DMSO; SC; Mice (transgenic); 2004; 4 months; Controls received mp w/ vehicle; animal info (10 weeks old, APPswe/PS1ΔE9); long-term study; pumps replaced every 28 days for 4 months; 3.6% DMSO ; neurodegenerative (Alzheimer's disease); behavioral testing (Object recognition task); enzyme inhibitor (AChE/MAO inhibitor); Therapeutic indication (Alzheimer's disease, AD); Dose (0.62 mg/kg/day);.

Q6129: J. Robles-Valero, *et al.* A Paradoxical Tumor-Suppressor Role for the Rac1 Exchange Factor Vav1 in T Cell Acute Lymphoblastic Leukemia. *Cancer Cell* 2017;32(5):608-623 e9

ALZET Comments: DAPT, Compound E; SC; Mice; 1002; 28 days; Dose (4 mg/kg); animal info (C57BL/10); enzyme inhibitor (gamma-secretase); cancer (Acute Lymphoblastic Leukemia);.

Q6063: A. Raafat, *et al.* The ANK repeats of Notch-4/Int3 activate NF-kappaB canonical pathway in the absence of Rbpj and causes mammary tumorigenesis. *Sci Rep* 2017;7(1):13690

ALZET Comments: IMD-0354; Saline; SC; Mice; 2001; 6 days; Dose (5, 10 or 20 mg/mouse/week); dose-response (Figure 3); Controls received mp w/ vehicle; animal info (10 week old FVB/N mice); enzyme inhibitor (IkB kinase-β); cancer (breast);.

Q5818: I. C. L. Pillai, *et al.* Cardiac Fibroblasts Adopt Osteogenic Fates and Can Be Targeted to Attenuate Pathological Heart Calcification. *Cell Stem Cell* 2017;20(2):218-232 e5

ALZET Comments: SYL-001, ARL67156 Trisodium Salt; Propylene Glycol; Mouse; 1007D; Controls received mp w/ vehicle; animal info (8-10 weeks old); 10% Propylene Glycol; cardiovascular; enzyme inhibitor (ectonucleotide pyrophosphatase/phosphodiesterase-1 (ENPP1)); Therapeutic indication (Heart calcification); Dose (SYL-001: 10 mg/kg/day, ARL67156 Trisodium Salt: 1 mg/kg/day);.

Q6708: Y. J. Oh, *et al.* Role of tissue transglutaminase in age-associated ventricular stiffness. *Amino Acids* 2017;49(3):695-704

ALZET Comments: Cystamine; Saline; Mice; 2ML4; 12 weeks; Dose (60 mg/kg/day); animal info (Male Fisher 344 rats aged 6 and 18 months); pumps replaced every 4 weeks; long-term study; enzyme inhibitor (transglutaminase);.

Q6350: S. M. Morris, Jr., *et al.* Distinct roles of arginases 1 and 2 in diabetic nephropathy. *Am J Physiol Renal Physiol* 2017;313(4):F899-F905

ALZET Comments: Cysteine, S-(2-boronoethyl)-L-; PBS; SC; Mice (knockout); 12 weeks; Dose (2.3 mg•kg⁻¹•day⁻¹); Controls received mp w/ vehicle; animal info (6-wk-old male arginase-2-deficient (Arg2^{-/-}) mice); enzyme inhibitor (arginase); Therapeutic indication (diabetes);.

Q6206: N. Martinez-Sanchez, *et al.* Hypothalamic AMPK-ER Stress-JNK1 Axis Mediates the Central Actions of Thyroid Hormones on Energy Balance. *Cell Metab* 2017;26(1):212-229 e12

ALZET Comments: SP600125; Rottlerin; Sphingosine, N-Hexanoyl-D-; C6-dihydroceramide; Saline; DMSO; CSF/CNS (ventricle); Rat; Mice; 2001; 1007D; 1004D; 7 days; Dose (SP600125: 0.5 mg/ml/day; rottlerin: 60 mmol/L; N-Hexanoyl-D-sphingosine & C6-dihydroceramide: 1.25 mg/ml); Controls received mp w/ 1/3 DMSO; animal info (Adult male Sprague-Dawley rats 8-10 weeks old, 200-250 g; adult male null Jnk2 and Jnk1flox/flox and their wild-type mice); SP600125 is a JNK inhibitor; rottlerin is a PKC inhibitor; N-Hexanoyl-D-sphingosine is a C6 ceramide; enzyme inhibitor (JNK, PKC); Brain coordinates (1.6 mm lateral to bregma, 0.6 mm posterior, 4.5 mm deep);.

Q6070: P. Lemkens, *et al.* Dual NEP/ECE inhibition improves endothelial function in mesenteric resistance arteries of 32-week-old SHR. *Hypertens Res* 2017;40(8):738-745

ALZET Comments: SOL1, Losartan, Hydralazine; Saline; SC; Rat; 2ML4; 4 weeks; Dose: SOL1 (50 mg/kg/d), Losartan (20 mg/kg/d), hydralazine (9 mg/kg/d); Controls received a dummy device (polyethylene tube



of the same size as the 2ML4 pumps); animal info (28 week old SHR); enzyme inhibitor (endothelin-converting enzyme; neutral endopeptidase); cardiovascular;.

Q6438: A. H. Leko, *et al.* Insulin-like growth factor I and its binding protein-3 are regulators of lactation and maternal responsiveness. *Sci Rep* 2017;7(1):3396

ALZET Comments: NBI-31772; Insulin-like growth factor I; CSF, artificial; DMSO; CSF/CNS; Rat; 2002; 14 days; Dose (48 µg IGF-I/day; 19,92 µg NBI-31772/day); 1% DMSO used; Controls received mp w/ vehicle; animal info (85 female Wistar rats weighing 250–300 g); post op. care (Tardomyocel® comp. III antibiotics (0.1 ml/kg body weight) was given s.c. to the animals for 5 days); enzyme inhibitor (brain IGFBP-3); ALZET brain infusion kit 2 used; Brain coordinates (antero-posterior, –0.5; lateral, 1.4; ventral, 3.6 mm);.

Q5050: E. M. R. Lake, *et al.* Modulation of the peri-infarct neuroglial 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.);.

Q6537: Kuo-Chang Wen, *et al.* α₂,3-sialyltransferase type I regulates migration and peritoneal dissemination of ovarian cancer cells. *ONCOTARGET* 2017;8(17):29013-29027

ALZET Comments: Soyasaponin I; DMSO; SC; Mice; 1004; 4 weeks; Dose (100µM); Controls received mp w/ vehicle; animal info (8 week old female C57BL/6 mice); enzyme inhibitor (ST3GalII); cancer (ovarian); Therapeutic indication (ascites);.

Q6084: J. E. Kim, *et al.* PLPP/CIN Regulates Seizure Activity by the Differential Modulation of Calsenilin Binding to GluN1 and Kv4.2 in Mice. *Front Mol Neurosci* 2017;10(303)

ALZET Comments: IC261, CKI-7; CSF/CNS (lateral ventricle); Mice; 1003D; Dose: IC261 (3 uM), CKI-7 (100 uM)); Controls received mp w/ vehicle; animal info (PLPP/CINtg and PLPP/CIN-/- mice); enzyme inhibitors (Casein kinase 1); Plastics One guide cannula (3260PGA) used; Brain coordinates (2 mm depth from bregma);.

Q6450: Y. H. Kao, *et al.* Targeting ENT1 and adenosine tone for the treatment of Huntington's disease. *Hum Mol Genet* 2017;26(3):467-478

ALZET Comments: JMF1907; SC; Mice; 6 weeks; Dose ((0.11mg/kg/day); Controls received mp w/ vehicle; animal info (7 week old R6/2 mice); enzyme inhibitor (ENT1); neurodegenerative (Huntington's disease);.

Q6430: S. Hitomi, *et al.* Enhancement of ERK phosphorylation and photic responses in Vc/C1 neurons of a migraine model. *Neurosci Lett* 2017;647(14-19)

ALZET Comments: PD98059; DMSO, Saline; Csf/cns (intracisternal); Rat; 2001; 7 days; Dose (0.1 µg/µl); 10% DMSO used; Controls received mp w/ vehicle; animal info (Male Sprague-Dawley rats); post op. care (penicillin G potassium); enzyme inhibitor (Mitogen-activated protein kinase kinase 1 inhibitor);.

Q6465: J. M. Harder, *et al.* Early immune responses are independent of RGC dysfunction in glaucoma with complement component C3 being protective. *Proc Natl Acad Sci U S A* 2017;114(19):E3839-E3848

ALZET Comments: AG1478; DMSO; SC; Mice (knockout); 2004; 3.5 months; Dose (12 mg/kg/d); Controls received mp w/ vehicle; animal info (D2.C3-/- mice); pumps replaced every 39 days; enzyme inhibitor (EGFR); Lynch coil;.

Q6222: E. C. El Hajj, *et al.* Detrimental role of lysyl oxidase in cardiac remodeling. *J Mol Cell Cardiol* 2017;109(17-26)

ALZET Comments: Aminopropionitrile, beta; Saline; Rat; 12 weeks; Dose (100 mg/kg/day); Controls received mp w/ vehicle; animal info (8 week old male Sprague Dawley); post op. care (analgesia by buprenorphine HCl (1 mg/kg); long-term study; enzyme inhibitor (lysyl oxidase);.

Q6396: K. J. Chung, *et al.* A self-sustained loop of inflammation-driven inhibition of beige adipogenesis in obesity. *Nat Immunol* 2017;18(6):654-664



ALZET Comments: $\alpha 4$ integrin-inhibitor; PBS; SC; Mice; 6 weeks; Controls received mp w/ vehicle; animal info (male C57BL/6 mice; enzyme inhibitor ());

Q6398: Y. Chen, *et al.* JAK-STAT signaling and the atrial fibrillation promoting fibrotic substrate. *Cardiovasc Res* 2017;

ALZET Comments: S3I-201; SC; Mice; 2001; Dose (10 mg/kg/d); Controls received mp w/ vehicle; animal info (8-10 week old male C57BL/6 mice weighing 20–25 g); enzyme inhibitor (S3I-201 is a selective STAT-3 inhibitor); cardiovascular; Therapeutic indication (myocardial infarction);

Q6009: B. Changyaleket, *et al.* Heparanase promotes neuroinflammatory response during subarachnoid hemorrhage in rats. *J Neuroinflammation* 2017;14(1):137

ALZET Comments: OGT2115; CSF, artificial; CSF/CNS; Rat; 1003D; 48 hours; Controls received mp w/ vehicle; animal info (250–300g); enzyme inhibitor (heparanase inhibitor); Dose (0.4 μ M);

Q5735: R. Callahan, *et al.* Original Research: Featured Article: Imatinib mesylate (Gleevec) inhibits Notch and c-Myc signaling: Five-day treatment permanently rescues mammary development. *Exp Biol Med* (Maywood) 2017;242(1):53-67

ALZET Comments: Imatinib mesylate; Saline; SC; Mice (pregnant); 2001; 5 days; Controls received mp w/ vehicle; animal info (10 weeks old); cancer (Breast); Imatinib mesylate a.k.a Gleevec ; Therapeutic indication (Mammary gland development, Breast cancer); Dose (21 mg/mouse/week); enzyme inhibitor (tyrosine kinase);

Q5730: B. Albright, *et al.* Progressive neuronal activation accompanies epileptogenesis caused by hippocampal glutamine synthetase inhibition. *Exp Neurol* 2017;288(122-133

ALZET Comments: Methionine sulfoximine; PBS; CSF/CNS; Rat; 2004; 28 days; Controls received mp w/ vehicle; animal info (200–250 g) ; MSO: methionine sulfoximine ; enzyme inhibitor (methionine sulfoximine); Therapeutic indication (Temporal lobe epilepsy); Dose (2.5 mg/mL);

Q4915: L. Yang, *et al.* Activation of protein kinase A in the amygdala modulates anxiety-like behaviors in social defeat exposed mice. *Mol Brain* 2016;9(3

ALZET Comments: 8-Br-cAMP; H-89; CSF/CNS (basolateral amygdala); Mice; 1002; 10 days; Controls received mp w/ saline; animal info (male, C57BL6J, 8 weeks old); ALZET brain infusion kit 2 used; behavioral testing (social defeat stress; social interaction; open field; elevated plus maze; rotarod test); bilateral infusion; pumps removed after 10 days; H-89 is an enzyme inhibitor (protein kinase A); Dose (8-Br-cAMP 2 μ g/day; H-89 0.3 μ g/day); brain coordinates;

Q5103: J. Yang, *et al.* Alteration of RhoA Prenylation Ameliorates Cardiac and Vascular Remodeling in Spontaneously Hypertensive Rats. *Cell Physiol Biochem* 2016;39(1):229-41

ALZET Comments: Alendronate; Saline; SC; Rat; 2004; 12 weeks; Controls received mp w/ vehicle; animal info (male, spontaneously hypertensive rat or Wistar-Kyoto, 6 weeks old); pumps replaced every 4 weeks; long-term study; cardiovascular; enzyme inhibitor (farnesyl pyrophosphate synthase); bp measured using tail cuff; Dose (100 μ g/kg/day);

Q5080: J. Urra, *et al.* In vivo blockade of acetylcholinesterase increases intraovarian acetylcholine and enhances follicular development and fertility in the rat. *Sci Rep* 2016;6(30129

ALZET Comments: Huperzine A; Intraovarian (ovarian bursa); Rat; 2004; 4 weeks; Controls received mp w/ saline; animal info (female, Sprague Dawley, 250–300g, hemi-OVX); tissue perfusion (ovarian bursa); enzyme inhibitor (acetylcholine esterase);

Q6666: S. Takada, *et al.* Dipeptidyl peptidase-4 inhibitor improved exercise capacity and mitochondrial biogenesis in mice with heart failure via activation of glucagon-like peptide-1 receptor signalling. *Cardiovasc Res* 2016;111(4):338-47

ALZET Comments: Exendin-4; Exendin-(9-39); Saline; SC; Mice; 2004; 4 weeks; Dose (1 nmol/kg BW/hr; 150 pmol/kg BW/min); Controls received mp w/ vehicle; animal info (Male C57BL/6J mice [10–12 weeks old, body weight (BW): 23–25 g); enzyme inhibitor (dipeptidyl peptidase (DPP)-4); cardiovascular; Therapeutic indication (myocardial infarction);

Q6665: P. Sini, *et al.* Pharmacological Profile of BI 847325, an Orally Bioavailable, ATP-Competitive Inhibitor of MEK and Aurora Kinases. *Mol Cancer Ther* 2016;15(10):2388-2398



ALZET Comments: BI 847325; Cyclodextrin, 2-hydroxypropyl-b-; SC; Mice (transgenic); Dose (20 mg/kg/day); 25% Cyclodextrins used ; animal info (Eight- to 10-week-old female BomTac:NMRI-Foxn1nu mice); enzyme inhibitor (ATP-competitive dual inhibitor of MEK and Aurora kinases); cancer (melanoma);.

Q6483: S. B. Singh, *et al.* The Fatty Acid Synthase Inhibitor Platensimycin Improves Insulin Resistance without Inducing Liver Steatosis in Mice and Monkeys. *PLoS One* 2016;11(10):e0164133

ALZET Comments: Platensimycin; PBS; SC; Mice; 2002; 10 days; Dose (40 µg/h; 125 µg/h; 400 µg/h); animal info (eDIO mice, about 16 weeks old); Platensimycin aka PTM; enzyme inhibitor (Fatty acid synthase inhibitor);.

Q6179: M. Shinozaki, *et al.* Combined treatment with chondroitinase ABC and treadmill rehabilitation for chronic severe spinal cord injury in adult rats. *Neurosci Res* 2016;113(37-47)

ALZET Comments: Chondroitinase ABC; CSF/CNS (intrathecal); Rat; 2001; 7 days; Dose (40 U/200 ul); Controls received mp w/ vehicle and inactivated C-ABC; animal info (Adult female Sprague-Dawley rats weighing 200–220 g); behavioral testing (Open field hindlimb locomotor activity test); Chondroitinase-ABC is a CSPG-digesting enzyme; enzyme inhibitor (chondroitin sulfate proteoglycans); ALZET Rat Intrathecal Catheter used; spinal cord injury;.

Q6651: G. W. Rhyasen, *et al.* AZD5153: A Novel Bivalent BET Bromodomain Inhibitor Highly Active against Hematologic Malignancies. *Mol Cancer Ther* 2016;15(11):2563-2574

ALZET Comments: AZD5153; DMSO; Cyclodextrin, 2-hydroxypropyl-b-; water; SC; Mice; 2002; 14 days; Dose (6.4 mg/kg/wk or 12.8 mg/kg/wk); 20% DMSO; 60% v/v HP-B-CD in water used; animal info (Female CB17 SCID and SCID beige mice); enzyme inhibitor (BRD4); "We enhanced these findings by using mini-pump drug infusion, which eliminates PK fluctuations and provides consistent target inhibition. Compared with daily oral dosing, less than one fifth of AZD5153 was needed per week via mini-pump to achieve comparable efficacy." pg. 2573 ; Industry authored (AstraZeneca);.

Q6617: J. Qi, *et al.* NF-kappaB Blockade in Hypothalamic Paraventricular Nucleus Inhibits High-Salt-Induced Hypertension Through NLRP3 and Caspase-1. *Cardiovasc Toxicol* 2016;16(4):345-54

ALZET Comments: Pyrrolidine dithiocarbamate; CSF, artificial; CSF/CNS (Paraventricular Nucleus); Rat; 2006; 6 weeks; Dose (5 ug/h); Controls received mp w/ vehicle; animal info (Eight-week-old male Dahl salt-sensitive (S) rats); pyrrolidine dithiocarbamate aka PDTC; enzyme inhibitor (NF-kB); Brain coordinates (1.5 mm caudal to the bregma, 0.4 mm lateral to central line, and 7.8 mm below the skull surface); bilateral cannula used;.

Q6629: M. Narushima, *et al.* The Metabotropic Glutamate Receptor Subtype 1 Mediates Experience-Dependent Maintenance of Mature Synaptic Connectivity in the Visual Thalamus. *Neuron* 2016;91(5):1097-1109

ALZET Comments: DHPG; Ro 67-4853: CPCCOEt; DMSO; Saline; CSF/CNS; Mice; 1007D; 7 days; Dose (10 mM CPCCOEt; mixture of 5 mM DHPG and 10 mM Ro 67-4853); 10% DMSO used; animal info (Male, wild-type, C57BL/6, P21, 8-10 g of weight); enzyme inhibitor (mGluR1); ALZET brain infusion kit 3 used; Brain coordinates (1.9-2.1 mm caudal and 1.9-2.1 mm lateral to Bregma to the point at 2.3-2.5 mm deep from the surface); cyanoacrylate adhesive;.

Q6620: S. J. Min, *et al.* Positive feedback role of TRPC3 in TNF-alpha-mediated vasogenic edema formation induced by status epilepticus independent of ETB receptor activation. *Neuroscience* 2016;337(37-47)

ALZET Comments: TNFp55 receptor, soluble; SN50; CSF/CNS; Rat; 1007D; Controls received mp w/ vehicle; enzyme inhibitor (NFKB); ALZET brain infusion kit 1 used; Brain coordinates (1 mm posterior; 1.5 mm lateral; 3.5 mm depth to the bregma);.

Q6616: R. Matos, *et al.* Bladder pain induced by prolonged peripheral alpha 1A adrenoceptor stimulation involves the enhancement of transient receptor potential vanilloid 1 activity and an increase of urothelial adenosine triphosphate release. *Acta Physiologica* 2016;218(4):265-275

ALZET Comments: Phenylephrine; Saline; CSF/CNS (intrathecal); Rat; 1002; Dose (0.0498 mg/day); Controls received mp w/ vehicle; animal info (female Wistar rats); enzyme inhibitor (selective α1-adrenoceptor agonist); Therapeutic indication (chronic visceral pain);.



Q6614: D. Markowitz, *et al.* Pharmacological Inhibition of the Protein Kinase MRK/ZAK Radiosensitizes Medulloblastoma. *Mol Cancer Ther* 2016;15(8):1799-808

ALZET Comments: M443; PBS; DMSO; CSF/CNS (intratumoral); Mice (nude); 2 weeks; 0.01% DMSO used; animal info (4 week old female athymic mice); enzyme inhibitor (MRK); Brain coordinates (2 mm to the right and 1 mm posterior to the lambda); cancer (Medulloblastoma); Industry authored (Fatimo Innovation LLC);.

Q6169: K. B. Lorvik, *et al.* Adoptive Transfer of Tumor-Specific Th2 Cells Eradicates Tumors by Triggering an In Situ Inflammatory Immune Response. *Cancer Res* 2016;76(23):6864-6876

ALZET Comments: S-(2-boronoethyl)-L-cysteine; SC; Mice (SCID); 14 days; Dose (mg/kg/d); Controls received mp w/ vehicle; animal info (TCR-transgenic SCID mice); enzyme inhibitor (arginase); cancer ();.

Q6697: Q. Long, *et al.* Chronic stress accelerates the development of endometriosis in mouse through adrenergic receptor beta2. *Hum Reprod* 2016;31(11):2506-2519

ALZET Comments: Propranolol hydrochloride; PBS; SC; Mice; 1002; 14 days; Dose (5 mg/kg/day); Controls received mp w/ vehicle; animal info (female Balb/C mice); enzyme inhibitor (ADRB antagonist); Therapeutic indication (endometriosis);.

Q6694: C. G. Liberini, *et al.* The satiating hormone amylin enhances neurogenesis in the area postrema of adult rats. *Mol Metab* 2016;5(10):834-843

ALZET Comments: Amylin; AC187; SC; Rat; 2004; 3 weeks; Dose (Amylin: 20 or 50 ug/kg; AC187: 500 ug/kg); animal info (Rats weighing 220-250g); enzyme inhibitor (amylin receptor antagonist AC187);.

Q6692: Z. Liang, *et al.* The pseudokinase CaMKv is required for the activity-dependent maintenance of dendritic spines. *Nat Commun* 2016;7(13282)

ALZET Comments: Y27632; PBS; CSF/CNS (hippocampus); Mice; 1003D; animal info (2-3-month-old adult C57/B6 mice); enzyme inhibitor (ROCK); Brain coordinates (anteroposterior, 2.00 mm; mediolateral, ±1.70 mm; dorsoventral, 1.4 mm; relative to the bregma);.

Q6690: P. Li, *et al.* Hematopoietic-Derived Galectin-3 Causes Cellular and Systemic Insulin Resistance. *Cell* 2016;167(4):973-984 e12

ALZET Comments: Galectin-3 inhibitor; SC; Mice (knockout); 2002; Dose (6.4 mg/kg); animal info (Eight week old mice male WT (C57BL6/J), Gal3/ and Gal3+/ mice); enzyme inhibitor (Galectin-3);.

Q6688: J. D. Li, *et al.* Bilateral Renal Denervation Ameliorates Isoproterenol-Induced Heart Failure through Downregulation of the Brain Renin-Angiotensin System and Inflammation in Rat. *Oxid Med Cell Longev* 2016;2016(3562634)

ALZET Comments: Isoproterenol; Irbesartan; Etanercept; Saline; SC; CSF/CNS (right lateral ventricle); Rat; 2ML2; 2004; 2 weeks; Dose (Isoproterenol: 40 mg/kg/d; Irbesartan: 125 ug/d; Etanercept 10 10 ug/h); Controls received mp w/ vehicle; AT1-R antagonist Irbe; enzyme inhibitor (TNF- α); Brain coordinates (1.0 mm caudal and 1.5 mm lateral to bregma and 4.5 mm below the skull surface);.

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

ALZET Comments: Tubacin; Niltubacin; DMSO; PBS; SC; Mice; 1004; 30 days; 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);.

Q6686: C. Lerin, *et al.* Defects in muscle branched-chain amino acid oxidation contribute to impaired lipid metabolism. *Mol Metab* 2016;5(10):926-936

ALZET Comments: S961; Saline; SC; Mice; 2001; Controls received mp w/ vehicle; animal info (six week old C57BL/6 male mice); enzyme inhibitor (insulin receptor antagonist); diabetes;.

Q4846: S. M. Krishnan, *et al.* Inflammasome activity is essential for one kidney/deoxycorticosterone acetate/salt-induced hypertension in mice. *British J. Pharmacol* 2016;173(752-765)



ALZET Comments: Angiotensin II; MCC950; SC; Mice; 1004; 28 days; 11 days; Controls received mp w/ vehicle; animal info (male, WT or ASC $-/-$, 10-12 weeks, 25-30g); cardiovascular; immunology; peptides; enzyme inhibitor (NLRP3 inflammasome; MCC950 is a novel diarylsulfonylurea-based compound; bp measured using tail cuff; Dose (0.7 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

ALZET Comments: Angiotensin II, Glucagon-like peptide-1, Glucose-Dependent Insulinotropic Polypeptide; Saline; SC; Mice (knockout); 1002; 4 weeks; 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-4I: 6 mg/kg/day);.

Q4843: B. Koenig, *et al.* Long term study of deoxyribozyme administration to XT-1 mRNA promotes corticospinal tract regeneration and improves behavioral outcome after spinal cord injury. *Experimental Neurology* 2016;276(51-58

ALZET Comments: DNAXT-1as; CSF/CNS (intrathecal); Rat; 1007D; 2 weeks; Controls received mp w/ control enzyme or PBS; animal info (female, Wistar, 200-250g); pumps replaced every week; pumps replaced every week; spinal cord injury; post op. care (Baytril; manual bladder emptying; Rimadyl); behavioral testing (horizontal ladder task); used self-made intrathecal catheter from 32-gauge polyurethane; enzyme inhibitor (DNA enzyme of mRNA of xylosyltransferase-1);.

Q6572: D. S. Kim, *et al.* Leptomycin B ameliorates vasogenic edema formation induced by status epilepticus via inhibiting p38 MAPK/VEGF pathway. *Brain Res* 2016;1651(27-35

ALZET Comments: Leptomycin B; SB202190; CSF/CNS (right lateral ventricle); Rat; 1007D; Controls received mp w/ vehicle; animal info (7 week old Male Sprague-Dawley rats); enzyme inhibitor (p38 MAPK); ALZET brain infusion kit 1 used; Brain coordinates (1 mm posterior; 1.5 mm lateral; 3.5 mm depth to the bregma); Therapeutic indication (epilepsy);.

Q7240: W. Ju, *et al.* Augmented efficacy of brentuximab vedotin combined with ruxolitinib and/or Navitoclax in a murine model of human Hodgkin's Lymphoma. *Proc Natl Acad Sci U S A* 2016;113(6):1624-9

ALZET Comments: Ruxolitinib; PEG 300; SC; Mice; 2 weeks; Dose (50 mg/kg/d); Controls received mp w/ vehicle; enzyme inhibitor (JAK1/2 inhibitor); cancer (Hodgkin's Lymphoma);.

Q6571: M. A. Hye Khan, *et al.* A dual COX-2/sEH inhibitor improves the metabolic profile and reduces kidney injury in Zucker diabetic fatty rat. *Prostaglandins Other Lipid Mediat* 2016;125(40-7

ALZET Comments: PTUPB; IP; Rat; 8 weeks; Dose (10 mg/kg/d); Controls received mp w/ vehicle; animal info (Male obese Zucker Diabetic Fatty and Zucker Lean rats); PTUPB aka 4-(5-phenyl-3-{3-[3-(4-trifluoromethylphenyl)-ureido]-propyl}-pyrazol-1-yl)-benzenesulfonamide; enzyme inhibitor (COX-2/sEH); Therapeutic indication (kidney injury);.

Q5848: N. Horii, *et al.* Increased Muscular 5alpha-Dihydrotestosterone in Response to Resistance Training Relates to Skeletal Muscle Mass and Glucose Metabolism in Type 2 Diabetic Rats. *PLoS One* 2016;11(11):e0165689

ALZET Comments: Dutasteride; Sesame oil; SC; Rat; 2006; 8 weeks; Controls were sedentary or health, age-matched, non-diabetic; animal info (20 weeks old); long-term study; behavioral testing (Resistance training); diabetes; enzyme inhibitor (5 α -reductase inhibitor); Therapeutic indication (Type-2 Diabetes); Dose (2 mg/kg);.

Q5866: K. M. Henkels, *et al.* PLD-Specific Small-Molecule Inhibitors Decrease Tumor-Associated Macrophages and Neutrophils Infiltration in Breast Tumors and Lung and Liver Metastases. *PLoS One* 2016;11(11):e0166553

ALZET Comments: FIPI, VU0155072-2; DMSO; SC; Mice (SCID); 1004; 4-5 weeks; Controls received mp w/ vehicle; animal info (8 weeks old) 50% DMSO used; cancer (breast); half-life FIPI: 5.5 hours, 18% bioavailability (p.4); post op. care (Carprofen (5 mg/kg) administered for analgesia); "silencing the PLD2 gene in cancer cells or implanting mice with micro-osmotic (Alzet) pumps containing the PLD small-molecule inhibitors FIPI and VU0155072-2 resulted in smaller tumors and fewer lung metastases" pg. 20; VU0155072-2 aka NOPT; FIPI aka 5-fluoro-2-indolyl des-chlorohalopemide; enzyme inhibitor (Phospholipase D- small-molecule inhibitors); Therapeutic indication (Breast cancer); Dose (1.8 mg/kg/day);.



Q5308: A. Clermont, *et al.* Plasma Kallikrein Mediates Vascular Endothelial Growth Factor-Induced Retinal Dysfunction and Thickening. *Invest Ophthalmol Vis Sci* 2016;57(6):2390-9

ALZET Comments: Fluoroacetate, Propionamide ditri-; PEG 400, PBS; SC; Rat, mice; 1003D, 1007D; 1 day, 2 days; Controls received mp w/ vehicle; animal info (Male Sprague-Dawley (SD) rats 10 wks, plasma prekallikrein gene-deficient mice (KLKB1-/-)); functionality of mp verified by enzyme activity assays; 10% PEG 400 used; dose-response (pg 2394, 2398); stability verified by (single bolus subcutaneous injection); Fluoroacetate, Propionamide ditri- aka VA999272; enzyme inhibitor (PKal inhibitor); enzyme inhibitor (PKal inhibitor); Resultant plasma level (pg 2394);

Q5633: H. H. Chen, *et al.* Renal Denervation Improves the Baroreflex and GABA System in Chronic Kidney Disease-induced Hypertension. *Sci Rep* 2016;6(38447)

ALZET Comments: L-Allylglycine, L-Glutamate, Baclofen; CSF/CNS (lateral ventricle); Rat; 2002; 2 weeks; Controls received mp w/ vehicle; animal info (8 week old); antihypertensive; enzyme inhibitor (inhibits the GABA synthetic enzyme glutamate decarboxylase (GAD)); Therapeutic indication (Hypertension); Dose (L-AG: (3.5 nmol/.5uL/hr)(L-Glu: 2.3 nmol/0.5 µ l per hour), (Baclofen: 0.1 nmol/0.5 µ l per hour));

Q5318: A. L. Bigley, *et al.* Using Automated Image Analysis Algorithms to Distinguish Normal, Aberrant, and Degenerate Mitotic Figures Induced by Eg5 Inhibition. *Toxicol Pathol* 2016;44(5):663-72

ALZET Comments: Eg5 inhibitor; DMSO, captisol; SC; Rat (Nude); 1 day, 2 days, 3 days; Controls received mp w/ vehicle; animal info (human transitional cell carcinoma (TCC) cell line MGHU3 in nude rats); 50% DMSO, 60% captisol used; cancer (bladder); dose-response (pg 667-669); enzyme inhibitor (kinesin-5 inhibitor); human transitional cell carcinoma (TCC) cell line MGHU3; xenograft model; Dose (1.375 mg/kg/d, 2.75 mg/kg/d, 4.6 mg/kg/d);

Q5592: S. Ando, *et al.* Tofacitinib induces G1 cell-cycle arrest and inhibits tumor growth in Epstein-Barr virus-associated T and natural killer cell lymphoma cells. *Oncotarget* 2016;7(47):76793-76805

ALZET Comments: Tofacitinib; DMSO, PEG, Saline; SC; Mice (NOG); 4 weeks; Controls received mp w/ vehicle; 50% DMSO, 10% PEG, 40% Saline used; cancer (Lymphoma); Therapeutic indication (lymphoma); Dose (30 mg/kg/day); enzyme inhibitor (JAK3).

Q4884: S. S. J. X. Z.-H. L. J. H. &, *et al.* Lack of JWA Enhances Neurogenesis and Long-Term Potentiation in Hippocampal Dentate Gyrus Leading to Spatial Cognitive Potentiation. *MOLECULAR NEUROBIOLOGY* 2016;53(355-368)

ALZET Comments: Thymidine, 3'-azido-3'-deoxy-; cyclodextrin, methyl-b-; Saline; PEG 400; CSF/CNS (dentate gyrus); Mice; 14 days; Controls received mp w/ vehicle; animal info (JWA-nKO); behavioral testing (morris water maze, rotarod test); used Plastics One cannula; used dental cement and screws; enzyme inhibitor (telomerase);

Q4264: Y. Zhu, *et al.* Hematogenous macrophage depletion reduces the fibrotic scar and increases axonal growth after spinal cord injury. *NEUROBIOLOGY OF DISEASE* 2015;74(114-125)

ALZET Comments: Sunitinib malate; DMSO; CSF/CNS (intrathecal); Mice; 1002; 2 weeks; enzyme inhibitor (tyrosine kinase); Animal info (female, 8 weeks old); functionality of mp verified by use of evans blue dye; 2.5% DMSO used; spinal cord injury; immunology; used ALZET mouse IT catheter;

Q5294: P. Yahr. Two aromatase inhibitors inhibit the ability of a third to promote mating in male rats. *Horm Behav* 2015;75(41-4)

ALZET Comments: Fadrozole; saline; SC; Rat; 2002; Controls received mp w/ vehicle, sham operation; animal info (Long-Evans male, Sprague-Dawley-derived female rats); pumps replaced every 2 weeks; "They performed properly, exposing males to 0.25 mg/kg/day fadrozole" pg 42; enzyme inhibitor (aromatase); enzyme inhibitor (aromatase);

Q4149: A. Vandenberg, *et al.* Adolescent maturation of inhibitory inputs onto cingulate cortex neurons is cell-type specific and TrkB dependent. *Frontiers in Neural Circuits* 2015;9(U1-U10)

ALZET Comments: 1NM-PP1; DMSO; Tween 20; saline; SC; Mice; 28 days; Animal info (Thy1-eYFP H or WT, PD23); 4% DMSO used; 2% Tween 20; 1NM-PP1 is a small molecule inhibitor; enzyme inhibitor (TrB kinase).

Q4616: P. Tognini, *et al.* Experience-dependent DNA methylation regulates plasticity in the developing visual cortex. *NATURE NEUROSCIENCE* 2015;18(956-+



ALZET Comments: RG108; Cyclodextrin, 2-hydroxypropyl-b-; CSF/CNS; Mice; 1007D; 3 days; Controls received mp w/ vehicle; animal info (C57BL6J, P25); 5% cyclodextrin used; stability verified by (37C t1/2 of 20 days); enzyme inhibitor;

Q4757: E. L. Schaeffer, *et al.* Chronic inhibition of brain phospholipase A(2) in adult rats impairs the survival of newborn mature neurons in the hippocampus. JOURNAL OF NEURAL TRANSMISSION 2015;122(619-628

ALZET Comments: MAFP; DMSO; NaCl; CSF/CNS; Rat; 2002; 14 days; Controls received mp w/ vehicle; animal info (male, Wistar, 350-400g, adult); ALZET brain infusion kit 2 used; 3% DMSO used; MAFP aka methyl arachidonyl fluorophosphonate; enzyme inhibitor (Phospholipase A2);

Q4072: N. L. Rosin, *et al.* Disruption of Collagen Homeostasis Can Reverse Established Age-Related Myocardial Fibrosis. American Journal of Pathology 2015;185(631-642

ALZET Comments: Aminopropionitrile, B-; SC; Mice; 2 weeks; Controls received mp w/ saline; animal info (male, C57BL6J, 38 weeks old); pumps replaced every 7 days; cardiovascular; B-aminopropionitrile aka BAPN; enzyme inhibitor (nonreversible LOX inhibitor);

Q4288: M. S. Rioult-Pedotti, *et al.* Dopamine Promotes Motor Cortex Plasticity and Motor Skill Learning via PLC Activation. PLoS One 2015;10(U529-U542

ALZET Comments: H89; U73122; U73343; Saline; DMSO; CSF/CNS (motor cortex); Rat; 1002; 5 days; 9 days; Controls received mp w/ vehicle; animal info (male, Long-Evans 8-10 weeks old, 250-350g); post op. care (buprenorphin 0.01 mg/kg IP); behavioral testing (motor skill); Cannula placement verified via Nissl staining; "double-loaded" vehicle and agent solution for vehicle only during recovery; enzyme inhibitor (protein kinase A); enzyme inhibitor (phospholipase A);

Q4279: M. Radwan, *et al.* Protection against murine osteoarthritis by inhibition of the 26S proteasome and lysine-48 linked ubiquitination. ANNALS OF THE RHEUMATIC DISEASES 2015;74(1580-1587

ALZET Comments: MG132; DMSO; PEG 300; SC; Mice; 1004; 8 weeks; Controls received mp w/ vehicle; animal info (C57BOL6J or mutant-Ub transgenic, 8 weeks old); pumps replaced every 4 weeks; 50% DMSO used; 50% PEG 300; enzyme inhibitor (proteasome, general);

Q4982: D. R. Potter, *et al.* Perturbed mechanotransduction by endothelial surface glycocalyx modification greatly impairs the arteriogenic process. Am J Physiol Heart Circ Physiol 2015;309(4):H711-7

ALZET Comments: Methylesculetin, 4-; Saline; Mice; 2 weeks; 5 weeks; Controls received mp w/ vehicle; animal info (male, C57BL5, 8 weeks old); cardiovascular; enzyme inhibitor (Hyaluronan synthase); Dose (8 ug/hr);

Q4990: T. A. Paine, *et al.* Effects of chronic inhibition of GABA synthesis on attention and impulse control. Pharmacol Biochem Behav 2015;135(97-104

ALZET Comments: Allylglycine, L-; CSF, artificial; CSF/CNS (prefrontal cortex); Rat; 2002; 14 days; Controls received mp w/ vehicle; animal info (male, Sprague Dalwey); bilateral cannula used; Multiple pumps per animal (2); behavioral testing (standard time reaction test; locomotor activity); tissue perfusion (prefrontal cortex); enzyme inhibitor (glutamic acid decarboxylase); Dose (3.5 ug/0.5ul/h);

Q4546: R. J. Napier, *et al.* Low Doses of Imatinib Induce Myelopoiesis and Enhance Host Anti-microbial Immunity. PLoS Pathogens 2015;11(U1651-U1677

ALZET Comments: Imatinib mesylate; Water; SC; Mice; 1007D; 2002; 28 days; Controls received mp w/ vehicle; animal info (male, C57BL6, 6 weeks old); functionality of mp verified by serum levels; dose-response (pg.9); immunology; enzyme inhibitor (tyrosine kinase);

Q4986: H. Murase, *et al.* Inhibition of DPP-4 reduces acute mortality after myocardial infarction with restoration of autophagic response in type 2 diabetic rats. Cardiovasc Diabetol 2015;14(103

ALZET Comments: Vildagliptin; exenatide; chloroquine; Saline; Mice; 1 week; 2 weeks; Controls received mp w/ vehicle; animal info (male, LETO or OLETF, 25-30 weeks old); cardiovascular; diabetes; "The pharmacological agents were administered via osmotic minipumps, not via drinking water containing the agents, because the amount of water rats drink per day is not consistent." pg 2; enzyme inhibitor (Dipeptidyl peptidase-4, DPP-4); Dose (chloroquine 10 mg/kg/day; Vildagliptin 10 mg/kg/day; Exenatide 10 ug/kg/day);



Q5230: A. W. Mao, *et al.* Application of chemokine receptor antagonist with stents reduces local inflammation and suppresses cancer growth. *Tumour Biol* 2015;36(11):8637-43

ALZET Comments: AMD3100; PBS; SC; Mice (NOD/SCID); 4 weeks; Controls received mp w/ saline; animal info (NOD/SCID); cancer (pancreatic); dose-response (pg 8640); enzyme inhibitor (SDF-1); AMD3100 is a specific inhibitor binding of SDF-1 and its receptor C-X-C chemokine receptor 4 (CXCR4); 3 % isoflurane used; dose: 2 mg.

Q4489: S. H. Lee, *et al.* Podocyte hypertrophy precedes apoptosis under experimental diabetic conditions. *APOPTOSIS* 2015;20(1056-1071

ALZET Comments: zAsp-DCB; SC; Rat; 3 months; Animal info (male, Sprague Dawley, 250-280g, 9-10 weeks old); long-term study; diabetes; enzyme inhibitor (pan-caspase);.

Q4305: A. leaume-Butaux, *et al.* Double-Edge Sword of Sustained ROCK Activation in Prion Diseases through Neuritogenesis Defects and Prion Accumulation. *PLoS Pathogens* 2015;11(U248-U272

ALZET Comments: Y-27632; dimethylfasudil; DMSO; saline; IP; Mice; Controls received mp w/ vehicle; animal info (C57BL6J, adult); pumps replaced every 4 weeks; behavioral testing (static rod test); enzyme inhibitor (Rho-associated protein kinase; ROCK);.

Q4471: F. K. Johnson, *et al.* Arginase Promotes Endothelial Dysfunction and Hypertension in Obese Rats. *Obesity* 2015;23(383-390

ALZET Comments: S-(2-boronoethyl)-L-cysteine; Rat; 6 days; Controls received mp w/ saline; animal info (male, Zucker Rats, 12-14 weeks old); cardiovascular; antihypertensive; enzyme inhibitor (arginase);.

Q4464: R. P. Iyer, *et al.* Early matrix metalloproteinase-12 inhibition worsens post-myocardial infarction cardiac dysfunction by delaying inflammation resolution. *INTERNATIONAL JOURNAL OF CARDIOLOGY* 2015;185(198-208

ALZET Comments: RXP 470.1; Saline; SC; Mice; 1007D; 1 day; 3 days; 5 days; 7 days; Controls received mp w/ vehicle; animal info (male, C57BL6J, 3-6 months old, myocardial infarction); cardiovascular; immunology; enzyme inhibitor (matrix metalloproteinase-12);.

Q3781: S. L. Ho, *et al.* Toxicity evaluation of prolonged convection-enhanced delivery of small-molecule kinase inhibitors in naive rat brainstem. *Childs Nervous System* 2015;31(221-226

ALZET Comments: Dasatinib; everolimus; DMSO; ethanol anhydrous; CSF, artificial; CSF/CNS (brain stem); Rat; 2001; 7 days; Control animals received mp w/ aCSF and coomassie blue; animal info (Sprague-Dawley, 188-250 g); convection-enhanced delivery; Plastics One cannula used; "an Elizabethan collar was placed on animals to prevent disturbance of cannula" pg 222; "brainstem targeting using pCED to infuse single and multi-drug therapy was well tolerated in these rats" pg 221; enzyme inhibitor (receptor tyrosine kinase).

Q5159: L. K. Hamilton, *et al.* Aberrant Lipid Metabolism in the Forebrain Niche Suppresses Adult Neural Stem Cell Proliferation in an Animal Model of Alzheimer's Disease. *Cell Stem Cell* 2015;17(4):397-411

ALZET Comments: Ara-C; Oleic Acid; AB142089; CSF/CNS (cerebroventricular); mice; 1007D; 1004; 6 days; 25 days; Controls received mp w/ vehicle; animal info: 2-month-old WT or 3xTg-AD mice; functionality of mp verified by Analysis of brain sections by IMS; cancer; dose-response (pg 407); neurodegenerative (NSC impairment); enzyme inhibitor (SCD-1 inhibitor – AB142089); Dose: 500 mM Oleic Acid; 10mM C12 Oleic Acid conjugated to vehicle; 10mM C13 Oleic Acid conjugated to vehicle; 2% AraC; 40 mM SCD-1 inhibitor.

Q4950: B. Guvenc Tuna, *et al.* Cerebral Artery Remodeling in Rodent Models of Subarachnoid Hemorrhage. *J Vasc Res* 2015;52(2):103-15

ALZET Comments: L682.777; PBS; DMSO; IP; Rat; 1003D; 3 days; Controls received mp w/ vehicle; animal info (male, Wistar, 8-12 weeks old); 9% DMSO used; post op. care (buprenorphine/temgesic); cardiovascular; enzyme inhibitor (transglutaminase);.

Q5146: S. Fabbiano, *et al.* Immunosuppression-Independent Role of Regulatory T Cells against Hypertension-Driven Renal Dysfunctions. *Mol Cell Biol* 2015;35(20):3528-46



ALZET Comments: Angiotensin II; ARL 67156; SC; mice; 1002; 14 days; animal info: Vav1-/- and Vav2-/-; Vav3-/-mice (from C57BL/10); 3 months old; functionality of mp verified by blood pressure; dose-response (pg 3538); cardiovascular; peptides; enzyme inhibitor (ARL 67156 inhibits ecto-ATPase); Dose: 1.44 mg/kg (Ang II) ; 1.1 ug/kg/day (ARL 67156).

Q4371: X. D. Cheng, *et al.* PKR inhibits the DNA damage response, and is associated with poor survival in AML and accelerated leukemia in NHD13 mice. BLOOD 2015;126(1585-1594

ALZET Comments: RNA-activated protein kinase inhibitor; DMSO; PBS; Mice; 1004; 28 days; Controls received mp w/ vehicle; animal info (NHID13, 4 months old); enzyme inhibitor (RNA-activated protein kinase).

Q4342: A. L. Caetano, *et al.* Kinin B2 receptor can play a neuroprotective role in Alzheimer's disease. NEUROPEPTIDES 2015;53(51-62

ALZET Comments: E-64; amyloid protein, beta (1-40); HEPES; CSF/CNS; Mice; 1004; 35 days; Controls received mp w/ vehicle; animal info (C57BL6 or KOB1 or KOB2, 28-31g,); neurodegenerative (Alzheimer's disease); enzyme inhibitor (cystein protease);.

Q5122: E. Badarau, *et al.* Development of Potent and Selective Tissue Transglutaminase Inhibitors: Their Effect on TG2 Function and Application in Pathological Conditions. Chem Biol 2015;22(10):1347-61

ALZET Comments: Angiotensin II; TG2 inhibitor, compound 3h; DMSO; PBS; SC; mice; 1002; 2 weeks; animal info: C57BL/6 male mice (14 weeks old); %50 of PBS; half-life (p.1360), 1 hr; antihypertensive; peptides; enzyme inhibitor (transglutaminase inhibitor); Dose: (AngII) 1.1 mg/kg/day; (compound 3h) 25 mg/kg/day.

Q5121: C. T. Appleton, *et al.* Reduction in disease progression by inhibition of transforming growth factor alpha-CCL2 signaling in experimental posttraumatic osteoarthritis. Arthritis Rheumatol 2015;67(10):2691-701

ALZET Comments: AG1478; RS504393; DMSO; water, deionized; SC; Rat; 2ML4; 10 weeks; Controls received mp w/ vehicle; functionality of mp verified by plasma levels and knee articular cartilage; pumps replaced every 4 weeks; %50 of DMSO; long-term study; enzyme inhibitor (EGFR and CCR2 inhibitors); EGFR inhibitor AG1478, CCR2 inhibitor RS504393; Dose: (AG1478) 21 nmoles/kg/hour; (RS504393) 200 nmoles/kg/hour.

Q4296: I. Aharony, *et al.* A Huntingtin-based peptide inhibitor of caspase-6 provides protection from mutant Huntingtin-induced motor and behavioral deficits. HUMAN MOLECULAR GENETICS 2015;24(2604-2614

ALZET Comments: ED11; Saline; water, sterile; SC; Mice; 1004; 20 weeks; Controls received mp w/ vehicle; animal info (5 weeks old); animal info (5 weeks old); neurodegenerative (Huntington's disease); behavioral testing (rotarod test, forced swim test, open field test, light dark choice test); long-term study; peptides; enzyme inhibitor (caspase-6);.

Q4294: E. I. Ager, *et al.* Blockade of MMP14 Activity in Murine Breast Carcinomas: Implications for Macrophages, Vessels, and Radiotherapy. JOURNAL OF THE NATIONAL CANCER INSTITUTE 2015;107(U137-U148

ALZET Comments: 1400W dihydrochloride; SC; Mice (nude); 1002; Animal info (female, nu/nu, 6-8 weeks old); cancer (breast); enzyme inhibitor (nitric oxide synthase); immunology;.