



**Recent References (2015-Present) on Toxicology Research
Using ALZET® Osmotic Pumps**

Q10678: R. Sharma, *et al.* In Vitro Study of Ochratoxin A in the Expression of Genes Associated with Neuron Survival and Viability. *Toxicology* 2023;483(153376

Agents: Ochratoxin-A **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 2 weeks;

ALZET Comments: Dose (8 mg/kg); comparison of oral gavage vs mp; see Discussion (p. 5); Ochratoxin-A aka (OTA)toxicology;

Q10741: J. Zubcevic, *et al.* Nicotine Exposure During Rodent Pregnancy Alters the Composition of Maternal Gut Microbiota and Abundance of Maternal and Amniotic Short Chain Fatty Acids. *Metabolites* 2022;12(8):

Agents: Nicotine tartrate **Vehicle:** Saline, sterile; **Route:** SC; **Species:** Rat; **Pump:** 2ML4; **Duration:** 28 days;

ALZET Comments: Dose (6 mg/kg); Controls received mp w/ vehicle; animal info (Female Sprague Dawley; ~9 weeks old; Virgin); teratology; toxicology

R0402: E. Zamberletti, *et al.* Dos(e)Age: Role of Dose and Age in the Long-Term Effect of Cannabinoids on Cognition. *Molecules* 2022;27(4):

Agents: Cannabinol, delta9-tetrahydro-; Cannabidiol **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 28 days;

ALZET Comments: Dose (3 mg/kg/day; 1 mg/kg/day each; 1:1 1 mg/kg/day THC and CBD); animal info (Male C57BL/6J; 12 and 18 months old); behavioral testing (Morris water maze; Nobel object location recognition task; Partner recognition task); toxicology;

Q10684: A. Smith, *et al.* Repositioning of a Diaminothiazole Series Confirmed to Target the Cyclin-Dependent Kinase CRK12 for Use in the Treatment of African Animal Trypanosomiasis. *Journal of Medicinal Chemistry* 2022;65(7):5606-5624

Agents: Compound 2 **Vehicle:** DMSO; Water, deionized; **Route:** Not Stated; **Species:** Mice; **Pump:** 2001D; 1003D; **Duration:** 48 hours;

ALZET Comments: Dose (10, 25, 50 mg/ml); 50% DMSO, 50% water used; animal info (NMRI mice) toxicology; Therapeutic indication (African Animal Trypanosomiasis);

Q10651: T. Prasse, *et al.* Bisphenol A-Related Effects on Bone Morphology and Biomechanical Properties in an Animal Model. *Toxics* 2022;10(2):

Agents: Bisphenol A **Vehicle:** DMSO; **Route:** SC; **Species:** Rat; **Pump:** 2ML4; **Duration:** 12 weeks;

ALZET Comments: Controls received mp w/ vehicle; animal info (Wistar rats total; 10 weeks old); post op. care (Metamizole); pumps replaced every 4 weeks; long-term study; toxicology;

Q10621: F. Navarrete, *et al.* Biomarkers of the Endocannabinoid System in Substance Use Disorders. *Biomolecules* 2022;12(3):

Agents: Nicotine **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Mice; **Pump:** Not Stated; **Duration:** 14 days;

ALZET Comments: Dose (25 mg/kg/day); animal info (Male C57BL/6J); toxicology; dependence;

Q10558: R. Joglekar, *et al.* Developmental Nicotine Exposure And Masculinization Of The Rat Preoptic Area. *Neurotoxicology* 2022;89(41-54

Agents: Nicotine **Vehicle:** DMSO; **Route:** SC; **Species:** Rat; **Pump:** 2ML4; **Duration:** Not Stated;

ALZET Comments: Dose (2 mg/kg/day); Controls received mp w/ vehicle; animal info (Male; Female Sprague Dawley; Weighed 225-250 g); behavioral testing (Elevated plus maze); toxicology;

Q10542: F. Heinemann, *et al.* Quantification of Hepatocellular Mitoses in a Toxicological Study in Rats Using a Convolutional Neural Network. *Toxicologic Pathology* 2022;50(3):344-352

Agents: Uridine, bromodeoxy- **Vehicle:** Saline; **Route:** SC; **Species:** Rats; **Pump:** Not Stated; **Duration:** Not Stated;

ALZET Comments: Dose (20 mg/ml saline; animal info (CrL:WI; Male; Split into groups of 7; 7-8 weeks old; Weighed 150-200 g); toxicology



Q10427: Y. M. Chen, *et al.* Hippocampal F3/Contactin plays a role in chronic stress-induced depressive-like effects and the antidepressant actions of vortioxetine in mice. *Biochemical Pharmacology* 2022;202(115097)

Agents: Virus, adeno-associated **Route:** CSF/CNS (hippocampus); **Species:** Mice; **Duration:** 2 weeks;

ALZET Comments: animal info (Male; 8 weeks old; Weighed 23-25 g; Male and Female; 50 weeks old; Weighed 35--38 g); behavioral testing (Chronic social defeat stress; Chronic restraint stress; Forced swim test; Tail suspension test; Sucrose preference test; Social interaction test); Brain coordinates (Hippocampus -2.3 mm anteroposterior; 1.6 mm mediallateral; 1.8 mm dorsoventral); bilateral cannula used; dental cement used; toxicology; Therapeutic indication (Depression);

Q10439: F. Amargant, *et al.* Development of a preclinical screening pipeline to test the efficacy of anti-fibrotic and anti-inflammatory drugs on ovarian aging. 38th Hybrid Annual Meeting of the ESHRE 2022;

Agents: Etanercept; Pirfenidone **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** Not Stated;

ALZET Comments: Dose (100 g/mL); Controls received mp w/ vehicle; animal info (7 and 14 months old; Female); toxicology; Therapeutic indication (Ovarian aging);

Q10730: H. Xia, *et al.* Selecting Relevant Genes From Microarray Datasets Using a Random Forest Model. *IEEE Access* 2021;9(97813-97821

Agents: Nicotine **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** Not Stated; **Duration:** Not Stated;

ALZET Comments: animal info: pregnant Sprague Dawley (SD) rats; toxicology; dependence

Q10683: T. A. Slotkin, *et al.* Paternal Cannabis Exposure Prior to Mating, but Not Delta9-Tetrahydrocannabinol, Elicits Deficits in Dopaminergic Synaptic Activity in the Offspring. *Toxicological Sciences* 2021;184(2):252-264

Agents: Benzoapyrene, maternal; Nicotine bitartrate **Species:** Rat; **Pump:** 2ML4; **Duration:** 28 days;

ALZET Comments: Dose (benzoapyrene 30 ug/kg/day, nicotine 2 mg/kg/day); animal info (9 weeks old; Male Sprague Dawley); toxicology;

Q10662: V. S. T. Rodrigues, *et al.* Changes in Gut-Brain Axis Parameters in Adult Rats of Both Sexes with Different Feeding Pattern That Were Early Nicotine-Exposed. *Food and Chemical Toxicology* 2021;158(112656

Agents: Nicotine **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2ML2; **Duration:** 14 days;

ALZET Comments: Dose (6 mg/kg/day); Controls received mp w/ vehicle; animal info (3-month old Wistar virgin female rats caged with male rats; Pregnant rats individually housed;); toxicology;

Q10590: R. Lawson, *et al.* Metabolic Interactions of Benzodiazepines with Oxycodone Ex Vivo and Toxicity Depending on Usage Patterns in an Animal Model. *British Journal of Pharmacology* 2021;180(7):829-842

Agents: Oxycodone **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 15 days;

ALZET Comments: Dose: (0.5 mg.ukg, thrice-daily); Controls received mp w/ vehicle; animal info: wiss adult mice (12 weeks old) of both sexes; toxicology

Q10377: A. C. Dutra-Tavares, *et al.* Does nicotine exposure during adolescence modify the course of schizophrenia-like symptoms? Behavioral analysis in a phencyclidine-induced mice model. *PLoS One* 2021;16(9):e0257986

Agents: Nicotine **Vehicle:** Water, milli-Q; NaOH; **Route:** SC; **Species:** Mice; **Pump:** 1007D; **Duration:** Not Stated;

ALZET Comments: Dose (24 mg/kg/day); Controls received mp w/ vehicle; animal info (Male; Female); behavioral testing (Open field; Novel object recognition; Memory task; 3-chamber sociability); toxicology;

Q10366: I. D. Calma, *et al.* Mitochondrial function influences expression of methamphetamine-induced behavioral sensitization. *Scientific Reports* 2021;11(1):24529

Agents: Rotenone **Vehicle:** DMSO; PEG; **Route:** SC; **Species:** Rat; **Pump:** 2001; **Duration:** 6 days;

ALZET Comments: Dose (1 mg/kg/day; 3 mg/kg/day); Controls received mp w/ vehicle; animal info (Male; Weighed 225-250 g); enzyme inhibitor (Rotenone); toxicology; dependence;



Q9055: X. Zhang, *et al.* FND5 alleviates oxidative stress and cardiomyocyte apoptosis in doxorubicin-induced cardiotoxicity via activating AKT. *Cell Death & Differentiation* 2020;27(2):540-555

Agents: Irisin **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 14 days;

ALZET Comments: Dose (12 nmol/kg/day); Controls received mp w/ vehicle; animal info (C57BL/6, Male, 8-10 weeks old, 23.5-275 g); toxicology;

Q10054: L. Pandolfi, *et al.* Loading Imatinib inside targeted nanoparticles to prevent Bronchiolitis Obliterans Syndrome. *Scientific Reports* 2020;10(1):20726

Agents: Imatinib **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 28 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (Pathogen-free, male C57BL/6 and Balb/c mice, 20-24 g); Imatinib aka GNP-HClm; toxicology;

Q8645: T. Majima, *et al.* The effect of mirabegron on bladder blood flow in a rat model of bladder outlet obstruction. *World J Urol* 2020;38(8):2021-2027

Agents: Mirabegron **Vehicle:** Dimethylacetamide, N, N-; Crempohor; Distilled Water; **Route:** SC; **Species:** Rat; **Pump:** Not stated; **Duration:** 14 days;

ALZET Comments: Dose (0.3 mg/kg/h); 10% Dimethylacetamide, N, N- used; 5% Crempohor used; 85% Distilled Water used; Controls received mp w/ vehicle; animal info (Twelve- week-old female Sprague–Dawley rats); Blood pressure measured via PE-10 catheter; toxicology;

Q9343: S. Li, *et al.* FGF22 promotes generation of ribbon synapses through downregulating MEF2D. *Aging* 2020;

Agents: Adeno-associated virus **Vehicle:** Not Stated; **Route:** Ear (cochlea); **Species:** Mice; **Pump:** 1004; **Duration:** 4 days;

ALZET Comments: Animal info (male CBA/J mice, aged 6 weeks, weight around 18g); Adeno-associated virus aka AAV; toxicology;

Q9313: A. Kiryk, *et al.* IntelliCage as a tool for measuring mouse behavior - 20 years perspective. *Behavioural Brain Research* 2020;388(112620)

Agents: Alprazolam **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 1 day;

ALZET Comments: Controls received mp w/ vehicle; animal info (female C57BL/6 mice); toxicology;

Q8585: A. Kiryk, *et al.* IntelliCage as a tool for measuring mouse behavior - 20 years perspective. *Behav Brain Res* 2020;388(112620)

Agents: Alprazolam **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** Not stated; **Duration:** 1 day;

ALZET Comments: Controls received mp w/ vehicle; animal info (female C57BL/6 mice); toxicology;

Q9304: F. K. Khalaf, *et al.* Epithelial and Endothelial Adhesion of Immune Cells Is Enhanced by Cardiotonic Steroid Signaling Through Na(+)/K(+)-ATPase- α -1. *Journal of the American Heart Association* 2020;9(3):e013933

Agents: Telocinobufagin **Vehicle:** Not Stated; **Route:** IP; **Species:** Mice; **Pump:** 1004; **Duration:** 4 weeks;

ALZET Comments: Dose (0.1 ug/g/day); Controls received mp w/ vehicle; animal info (Na/K-ATPase α 1 subunit heterozygous null mice; wild-type littermate controls (NKA α -1+/+)); toxicology;

Q8553: G. Jia, *et al.* Nicotine induces cardiac toxicity through blocking mitophagic clearance in young adult rat. *Life Sciences* 2020;257(118084)

Agents: Nicotine **Vehicle:** Not stated; **Route:** SC; **Species:** Rat; **Pump:** Not stated; **Duration:** 6 weeks;

ALZET Comments: Dose (3 mg/kg/day); Controls received mp w/ vehicle; animal info (Sprague-Dawley rats, 2-4 months old);

Q8484: P. Garland, *et al.* Haemoglobin causes neuronal damage in vivo which is preventable by haptoglobin. *Brain Commun* 2020;2(1):fcz053

Agents: Haemoglobin; Haptoglobin **Vehicle:** Saline; **Route:** CSF/CNS; **Species:** Mice; **Pump:** 2002; **Duration:** 2 weeks;

ALZET Comments: Dose (20mg/ml Haemoglobin; 14mg/ml Haptoglobin); 0.9% Saline used; Controls received mp w/ vehicle; animal info (Locally bred male C57BL/6 mice, 10–12 weeks of age); post op. care (Buprenorphine); Haemoglobin aka Hb; Haptoglobin aka Hp; ALZET brain infusion kit 3 used; Brain coordinates (from bregma: anteroposterior, -0.4 mm; lateral, 1 mm; depth, 2.5 mm.); cyanoacrylate adhesive; toxicology;



Q8428: Y. Cong, *et al.* A Structure-Activity Relationship between the Veratrum Alkaloids on the Antihypertension and DNA Damage Activity in Mice. *Chem Biodivers* 2020;17(2):e1900473

Agents: Angiotensin II **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 1 week;

ALZET Comments: Dose (2.4 ug/kg/min); Controls received mp w/ vehicle; animal info (C57BL/6 mice, 9 to 10 weeks); Blood pressure measured via tail cuff method; toxicology;

Q8400: C. M. Campolim, *et al.* Short-term exposure to air pollution (PM2.5) induces hypothalamic inflammation, and long-term leads to leptin resistance and obesity via Tlr4/Ikbke in mice. *Scientific Reports* 2020;10(1):10160

Agents: RNA, small interfering; **Route:** CNS/CSF (lateral ventricle); **Species:** Mice; **Pump:** 1007D; **Duration:** 5 days;

ALZET Comments: small interfering RNA aka si-RNA; Brain coordinates (AP -0.5 mm; L -1.3 mm; DV -2.2 mm); Cannula placement verified via angiotensin II and measurement of water intake; toxicology;

Q8388: D. Bhattacharya, *et al.* Concurrent nicotine exposure to prenatal alcohol consumption alters the hippocampal and cortical neurotoxicity. *Heliyon* 2020;6(1):e03045

Agents: Nicotine **Vehicle:** Alcohol, Saline; **Route:** SC; **Species:** Rat; **Pump:** Not stated; **Duration:** Not stated;

ALZET Comments: Dose (6 mg/kg/day); Controls received mp w/ vehicle; animal info (Sprague Dawley (Time pregnant) rats); behavioral testing (Y maze); toxicology;

Q8387: I. M. Bertasso, *et al.* Programming of hepatic lipid metabolism in a rat model of postnatal nicotine exposure - Sex-related differences. *Environmental Pollution* 2020;258(113781

Agents: Nicotine **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2ML2; **Duration:** 14 days;

ALZET Comments: Dose (6 mg/kg/ day); 0.9% NaCl used; Controls received mp w/ vehicle; animal info (pregnant lactating Wistar rat); toxicology;

Q7664: L. Shifeng, *et al.* Ac-SDKP increases alpha-TAT 1 and promotes the apoptosis in lung fibroblasts and epithelial cells double-stimulated with TGF-beta1 and silica. *Toxicol Appl Pharmacol* 2019;369(17-29

Agents: Ac-SDKP **Vehicle:** Saline; **Route:** IP; **Species:** Rat; **Pump:** 2ML4; **Duration:** Not Stated;

ALZET Comments: Dose (800 µg/kg/d); Controls received mp w/ vehicle; animal info (3 weeks, male, Sprague-Dawley, 180+/-10g); Ac-SDKP is an anti-fibrotic tetrapeptide; toxicology; Therapeutic indication (anti-silicotic effect through attenuation of lung parenchymal distortion and collagen deposition);

Q8657: S. Z. McIntosh, *et al.* Intrauterine inhibition of chemokine receptor 4 signaling modulates local and systemic inflammation in ovine pregnancy. *Am J Reprod Immunol* 2019;82(5):e13181

Agents: CXCR4 inhibitor **Vehicle:** PBS; **Route:** Intrauterine; **Species:** Sheep; **Pump:** 2ML2; **Duration:** 14 days;

ALZET Comments: Dose (4120 ng); Controls received mp w/ vehicle; animal info (Rambouillet-cross ewes); CXCR4 inhibitor aka AMD3100; toxicology;

Q9007: N. Zhao, *et al.* After Treatment with Methylene Blue is Effective against Delayed Encephalopathy after Acute Carbon Monoxide Poisoning. *Basic & Clinical Pharmacology & Toxicology* 2018;122(5):470-480

Agents: Methylene blue **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 1007D; **Duration:** 7 days;

ALZET Comments: Dose (0.5 mg/kg/day); Controls received sham surgery; animal info (male, Sprague-Dawley); behavioral testing (Barnes maze); toxicology; immunology; Therapeutic indication (methylene blue treatment initiated 1 hr after CO exposure decreased pro-inflammatory cytokine levels, suppressed oxidative damage, preserved mitochondrial function, reduced neuronal apoptosis in the hippocampus and alleviated cognitive impairments in a rat model of severe CO poisoning);

Q7885: C. Vandenbussche, *et al.* Tacrolimus-induced nephrotoxicity in mice is associated with microRNA deregulation. *Archivos de Zootecnia* 2018;92(4):1539-1550

Agents: Tacrolimus **Vehicle:** Serum, physiological; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 28 days;

ALZET Comments: Dose (1 mg/kg/d); Controls received mp w/ vehicle; animal info (4 weeks, male, CD-1, 30-40g); enzyme inhibitor (Calcineurin); toxicology; Tacrolimus actively participates to chronic allograft dysfunction through miR-21-5p modulation.;



Q7153: T. Lilius, *et al.* Ketamine and norketamine attenuate oxycodone tolerance markedly less than that of morphine: from behaviour to drug availability. *British Journal of Cancer* 2018;120(4):818-826

Agents: Morphine, oxycodone **Vehicle:** Sterile water; **Route:** SC; **Species:** Rats; **Pump:** 2ML1; **Duration:** 7 days;
ALZET Comments: Dose (oxycodone 3.6 mg day⁻¹); (morphine 40 mg ml⁻¹); animal info (Male Sprague-Dawley rats); behavioral testing (tail-flick, hot-plate tests); Toxicology (tolerance);

Q7824: C. Haines, *et al.* Comparison of the effects of sodium phenobarbital in wild type and humanized constitutive androstane receptor (CAR)/pregnane X receptor (PXR) mice and in cultured mouse, rat and human hepatocytes. *Toxicology* 2018;396-397(23-32)

Agents: uridine, 5-bromo-2'-deoxy- **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** 2001; **Duration:** 7 days;
ALZET Comments: Dose (15 mg/ml); PBS (pH 7.4) used; Controls received mp w/ agent; animal info (12 weeks, male, C57BL/6J or hCAR/hPXR); toxicology; minipumps used to measure replicative DNA synthesis;

Q7823: C. Haines, *et al.* Comparison of the hepatic and thyroid gland effects of sodium phenobarbital in wild type and constitutive androstane receptor (CAR) knockout rats and pregnenolone-16alpha-carbonitrile in wild type and pregnane X receptor (PXR) knockout rats. *Toxicology* 2018;400-401(20-27)

Agents: uridine, 5-bromo-2'-deoxy- **Vehicle:** PBS; **Route:** SC; **Species:** Rat; **Pump:** 2ML1; **Duration:** 7 days;
ALZET Comments: Dose (15 mg/ml); PBS (pH 7.4) used; Controls received mp w/ agent; animal info (14 weeks, male, Sprague-Dawley, CAR KO and PXR KO); toxicology; minipumps used for measure replicative DNA synthesis;

Q5170: T. Nojiri, *et al.* Atrial natriuretic peptide protects against cisplatin-induced granulocytopenia. *Cancer Chemotherapy and Pharmacology* 2016;78(1):191-7

Agents: Atrial natriuretic peptide **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1003D; **Duration:** Not Stated;
ALZET Comments: Controls received mp w/ vehicle; animal info (C57BL6, 7 weeks old); toxicology; immunology; Dose (1.5 ug/kg/min);

Q5168: T. Nojiri, *et al.* Protective effects of ghrelin on cisplatin-induced nephrotoxicity in mice. *Peptides* 2016;82(85-91)

Agents: Ghrelin **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1003D; **Duration:** 3 days;
ALZET Comments: Controls received mp w/ vehicle; Controls received mp w/ vehicle; toxicology; cardiovascular; Dose 0.8 ug/kg/min;

Q5451: Y. Mikhed, *et al.* Nitroglycerin induces DNA damage and vascular cell death in the setting of nitrate tolerance. *Basic Research in Cardiology* 2016;111(4):52

Agents: Nitroglycerin; Glyceril Trinitrate **Vehicle:** Ethanol; **Route:** SC; **Species:** Rat; **Pump:** 2001; **Duration:** 3.5 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (male Wistar rats, 6 weeks old, 300 grams); toxicology; cardiovascular; nitroglycerin is a vasodilator; Dose (10, 20 mg/kg/day);

Q5466: S. Mia, *et al.* Role of AMP-activated protein kinase alpha1 in angiotensin-II-induced renal Tgfss-activated kinase 1 activation. *Biochemical and Biophysical Research Communications* 2016;476(4):267-272

Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 2 weeks;
ALZET Comments: Controls received mp w/ vehicle; animal info (Ampk(alpha)1 -/- mice); functionality of mp verified by analysis of renal tissue; toxicology; peptides; Angiotensin II key factor in renal fibrosis; Dose (1.46 mg/kg/day);

Q5409: H. Lui, *et al.* Combining 2-deoxy-D-glucose with fenofibrate leads to tumor cell death mediated by simultaneous induction of energy and ER stress. *ONCOTARGET* 2016;7(24):36461-36473

Agents: Fenofibrate; Glucose, 2-Deoxy **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 62 Days;
ALZET Comments: Controls received mp w/ vehicle and oral gavage; cancer (human melanoma xenograft model); dose-response (pg 36469); toxicology; "slow-release pump seems to be an effective way to deliver 2-DG" pg 36470; Oral gavage vs. mp; dose given via mp requires 3 times lower total dose than IP injection (3x/week); Therapeutic indication (tumor growth); Dose (FF 100 mg/kg/day, 41 ug/ml/hr);



Q5408: S. J. Liu, *et al.* Sodium selenate retards epileptogenesis in acquired epilepsy models reversing changes in protein phosphatase 2A and hyperphosphorylated tau. *Brain* 2016;139(Pt 7):1919-38

Agents: Sodium Selenate **Vehicle:** Sodium Chloride; **Route:** SC; **Species:** Rat; **Pump:** 2004, 2006; **Duration:** 4 weeks, 12 weeks; **ALZET Comments:** Controls received mp w/ vehicle; animal info (adult male Wistar and Long-Evans rats, 12 weeks); pumps replaced after initial 6 weeks; functionality of mp verified by residual volume; neurodegenerative (Traumatic brain injury, Alzheimer's disease); behavioral testing (neurotoxicity scale (0-4) testing); long-term study; Toxicology, sodium selenate; Epilepsy model; EEG used to monitor status epilepticus; Dose (1 mg/kg/day);

P2091: M. Liu, *et al.* A H₂S Donor GYY4137 Exacerbates Cisplatin-Induced Nephrotoxicity in Mice. *Mediators Inflamm* 2016;2016(8145785)

Agents: GYY4137 **Vehicle:** DMSO; PEG; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 72 hours; **ALZET Comments:** animal info (Male C57BL/6 mice aged 8–10 weeks old); 1:1 mixture of DMSO:PEG used; toxicology; employed morpholin-4-ium-4-methoxyphenyl (morpholino) phosphinodithioate, a.k.a., GYY4137 is a novel slow releasing H₂S donor; Therapeutic indication (Nephrotoxicity); Dose (21mg/kg/d);

Q5380: M. Kockx, *et al.* Low-Density Lipoprotein Receptor-Dependent and Low-Density Lipoprotein Receptor-Independent Mechanisms of Cyclosporin A-Induced Dyslipidemia. *Arteriosclerosis, Thrombosis, and Vascular Biology* 2016;36(7):1338-49

Agents: Cyclosporine A **Vehicle:** Ethanol; Cremophor EL; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 4 weeks; **ALZET Comments:** Controls received mp w/ vehicle; animal info (female mice, C57BL/6, 18-20 g); functionality of mp verified by plasma levels; 33% ethanol, 62% Cremophor EL used; toxicology; Cyclosporine A aka CsA; CsA does not induce liver or kidney toxicity; Dose (20 mg/kg/day); Resultant plasma level (1087±124 ng/mL, 711±91 ng/mL after 1 week, 4 weeks);

Q5376: N. J. Hunt, *et al.* Changes in orexinergic immunoreactivity of the piglet hypothalamus and pons after exposure to chronic postnatal nicotine and intermittent hypercapnic hypoxia. *European Journal of Neuroscience* 2016;43(12):1612-22

Agents: Nicotine hydrogen tartrate salt **Vehicle:** Water; **Route:** SC; **Species:** Pig (mini); **Pump:** 2ML2; **Duration:** 14 days; **ALZET Comments:** Controls received mp w/ vehicle; animal info (male mixed breed miniature piglets, postnatal day 2, 1.27 kg); functionality of mp verified by brain analysis; toxicology; Chronic postnatal nicotine and intermittent hypercapnic hypoxia (IHH); Dose (2 mg/kg/day);

Q7246: X. Bao, *et al.* Preclinical toxicity evaluation of a novel immunotoxin, D2C7-(scdsFv)-PE38KDEL, administered via intracerebral convection-enhanced delivery in rats. *Invest New Drugs* 2016;34(2):149-58

Agents: Immunotoxin, D2C7-(scdsFv)-PE38KDEL **Vehicle:** Not Stated; **Route:** CSF/CNS (right caudate nucleus); **Species:** Rat; **Pump:** 2ML1, 2001; **Duration:** 72 hours; **ALZET Comments:** Dose (0, 0.05, 0.1, 0.35, 0.4 µg/rat/72 hrs); animal info (Sprague–Dawley; 13-17 weeks old; 360–460 g for males and 210–290 g for females); stability verified by (cytotoxicity assay); stability verified by (cytotoxicity assay); Brain coordinates (1 mm anterior to the bregma, 3 mm to the right of the cranium midline, and 5 mm into the caudate nucleus); cyanoacrylate adhesive (3 M Vetbond Tissue Adhesive); cancer (Glioblastoma); toxicology;

Q4182: K. C. Wu, *et al.* Decreased expression of organic cation transporters, Oct1 and Oct2, in brain microvessels and its implication to MPTP-induced dopaminergic toxicity in aged mice. *Journal of Cerebral Blood Flow and Metabolism* 2015;35(37-47)

Agents: MPTP **Vehicle:** Ringer's solution; **Route:** CSF/CNS (striatum); **Species:** Mice; **Pump:** Not Stated; **Duration:** 7 days; **ALZET Comments:** Controls received mp w/ vehicle; animal info (male, Oct1/2 -/-, young and aged B6, WT FVB); ALZET brain infusion kit used; toxicology;

Q5289: A. Vivekanandarajah, *et al.* Postnatal nicotine effects on the expression of nicotinic acetylcholine receptors in the developing piglet hippocampus and brainstem. *Int J Dev Neurosci* 2015;47(Pt B):183-91

Agents: Nicotine Hydrogen Tartrate **Vehicle:** water; **Route:** IP; **Species:** Pig (mini); **Pump:** 2ML2; **Duration:** 14 days; **ALZET Comments:** Controls received mp w/ vehicle; animal info (piglets); functionality of mp verified by blood and urine samples; toxicology; Dose (2 mg/kg/d); Resultant plasma level (20.3 ± 2.5 ng/mL);



Q5281: M. Tremblay-Franco, *et al.* Dynamic Metabolic Disruption in Rats Perinatally Exposed to Low Doses of Bisphenol-A. PLoS One 2015;10(10):e0141698

Agents: Bisphenol A **Vehicle:** DMSO; **Route:** SC; **Species:** Rat (pregnant); **Pump:** 2004; **Duration:** 28 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (Sexually mature virgin female SD rats (8–10 weeks); functionality of mp verified by Blood and liver levels; 50% DMSO used; toxicology; implanted on day 9 of pregnancy; Dose (0.25, 2.5, 25, or 250 µg/kg/day);

Q4115: S. Steven, *et al.* Gliptin and GLP-1 analog treatment improves survival and vascular inflammation/dysfunction in animals with lipopolysaccharide-induced endotoxemia. Basic Research in Cardiology 2015;110(U103-U116)

Agents: Linagliptin; sitagliptin **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 3 days;

ALZET Comments: Animal info (male, C57BL6); functionality of mp verified by DPP-4 activity in serum;

Q4032: M. C. O'Sullivan, *et al.* Dibenzosuberyl substituted polyamines and analogs of clomipramine as effective inhibitors of trypanothione reductase; molecular docking, and assessment of trypanocidal activities. Bioorganic & Medicinal Chemistry 2015;23(996-1010)

Agents: Compound 7 **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Mice; **Pump:** Not Stated; **Duration:** 3 days;

ALZET Comments: Animal info (female, Swiss-Webster); comparison of injection vs mp; toxicology;

Q4485: S. Kumar, *et al.* Role of Lipocalin-type prostaglandin D(2) synthase (L-PGDS) and its metabolite, prostaglandin D(2), in preterm birth. PROSTAGLANDINS & OTHER LIPID MEDIATORS 2015;118(28-33)

Agents: BWA868C; PGD2, 11-deoxy-11-methylene **Vehicle:** Saline; **Species:** Mice; **Pump:** 1004; **Duration:** 28 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (L-PGDS); teratology; toxicology; BWA868C; PGD2, 11-deoxy-11-methylene are DP1 and DP2 receptor antagonists;

Q4473: L. Kass, *et al.* Prenatal Bisphenol A exposure delays the development of the male rat mammary gland. REPRODUCTIVE TOXICOLOGY 2015;54(37-46)

Agents: Bisphenol A **Vehicle:** DMSO; **Route:** SC; **Species:** Rat; **Pump:** 1002; **Duration:** 14 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (female, WistarGD9); teratology; toxicology;

Q4418: M. Fujimura, *et al.* Methylmercury causes neuronal cell death through the suppression of the TrkA pathway: In vitro and in vivo effects of TrkA pathway activators. TOXICOLOGY AND APPLIED PHARMACOLOGY 2015;282(259-266)

Agents: MCC-257 **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** 2004; **Duration:** 4 weeks;

ALZET Comments: Controls received mp w/ vehicle; animal info (male, Wistar, 6 weeks old, 240-290g); toxicology; MCC-257 is a GM1 ganglioside analog;

Q4382: E. P. Conceicao, *et al.* Maternal nicotine exposure leads to higher liver oxidative stress and steatosis in adult rat offspring. FOOD AND CHEMICAL TOXICOLOGY 2015;78(52-59)

Agents: Nicotine **Vehicle:** Saline; **Route:** SC; **Species:** Rat (lactating); **Pump:** 2ML2; **Duration:** 14 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (female, Wistar, PN2); teratology; toxicology; dependence;