



Recent References (2021-Present) on Immunology Research  
Using ALZET® Osmotic Pumps

**Q11321:** J. H. Jun, *et al.* Effects of dexmedetomidine on A549 non-small cell lung cancer growth in a clinically relevant surgical xenograft model. *Scientific Reports* 2023;13(1):12471

**Agents:** Dexmedetomidine **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** BALB/c nude; **Pump:** 1002; **Duration:** 14 days;  
**ALZET Comments:** Dose (20 ug/kg/day); animal info (male; 6 weeks old, 17-18 g); receptor agonist (Alpha-2 adrenoceptor); immunology; xenograft

**Q11029:** J. Xu, *et al.* Anti-Inflammatory Actions of G-Protein-Coupled Estrogen Receptor 1 (GPER) and Brain-Derived Estrogen Following Cerebral Ischemia in Ovariectomized Rats. *Biology (Basel)* 2023;12(1):

**Agents:** G1; G36 **Vehicle:** Cotton seed oil; DMSO; **Route:** SC; **Species:** Rat **Strain:** Sprague-Dawley **Pump:** 2002 **Duration:** 14 d  
**ALZET Comments:** 1% DMSO used; animal info: Adult female ovariectomized rats; G1 is G-protein-coupled estrogen receptor agonist, G36 is GPER antagonist; immunology (inflammation); cerebral ischemia

**Q11005:** M. St Pierre, *et al.* Unbiased Quantitative Single-Cell Morphometric Analysis to Identify Microglia Reactivity in Developmental Brain Injury. *Life (Basel)* 2023;13(4):

**Agents:** U-46619 **Vehicle:** Ethanol; **Route:** IP; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 1007D; **Duration:** 24 hours;  
**ALZET Comments:** Dose (4000 ng/ul); 0.5% ethanol used; Controls received mp w/ vehicle; animal info: pregnant mice; U-46619 is a thromboxane A2-analog; immunology; brain injury

**Q10986:** S. M. Robert, *et al.* The choroid plexus links innate immunity to CSF dysregulation in hydrocephalus. *Cell* 2023;186(4):764-785 e21

**Agents:** E. coli, wild type; E. coli, -LPS; lipopolysaccharide **Vehicle:** CSF, artificial; **Route:** CSF/CNS (right lateral ventricle);  
**Species:** Rat; **Strain:** Wistar; **Pump:** 1003D; **Duration:** 72 hours;  
**ALZET Comments:** Dose (10 ng/mL); Controls received mp w/ vehicle; animal info 8-week-old; ALZET brain infusion kit 2 used; Brain coordinates ((coordinates, x= -0.8, y= -1.7 mm from bregma); cyanoacrylate adhesive; gene therapy; immunology

**Q10980:** L. Pezhman, *et al.* PEPITEM modulates leukocyte trafficking to reduce obesity-induced inflammation. *Clinical and Experimental Immunology* 2023;212(1):1-10

**Agents:** PEPITEM **Vehicle:** PBS; **Route:** Not Stated; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 2006; **Duration:** 6 weeks;  
**ALZET Comments:** Dose (3.5 mg/ml); Controls received mp w/ vehicle; animal info: 8 weeks, male; peptides; obesity;

**Q10978:** R. Patel, *et al.* Signaling through the IL-6-STAT3 Pathway Promotes Proteolytically-Active Macrophage Accumulation Necessary for Development of Small AAA. *Vascular and Endovascular Surgery* 2023;57(5):433-444

**Agents:** Interleukin-6 **Vehicle:** Saline, sterile; **Route:** IP; **Species:** Mice; **Strain:** C57BL/6; IL-6KO; **Pump:** 1004; **Duration:** 21 d  
**ALZET Comments:** Dose: (4.36 µg/kg/day); Controls received mp w/ vehicle; animal info: wild-type mice; post op. care (subcutaneous injection of 0.05 mg/kg buprenorphine); functionality of mp verified by IL-6 plasma levels; cardiovascular; abdominal aortic aneurysm; immunology

**Q10965:** S. M. Mutchler, *et al.* Validation of commercially available antibodies directed against subunits of the epithelial Na(+) channel. *Physiological Reports* 2023;11(1):e15554

**Agents:** Aldosterone **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** 2002; **Duration:** 2 weeks;  
**ALZET Comments:** Dose (240 µg/kg/day); animal info: Male mice; nephrology; immunology

**Q11122:** D. Kim, *et al.* Cell type specific IL-27p28 (IL-30) deletion in mice uncovers an unexpected regulatory function of IL-30 in autoimmune inflammation. *Scientific Reports* 2023;13(1):1812

**Agents:** IL-27, recombinant; IL-30, recombinant **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** 1007D; **Duration:** 7 days;  
**ALZET Comments:** Dose (400 ng); Controls received mp w/ vehicle; immunology;



**Q10954:** K. Karino, *et al.* Inhibitor of NF-kappaB Kinase Subunit epsilon Contributes to Neuropsychiatric Manifestations in Lupus-Prone Mice Through Microglial Activation. *Arthritis & Rheumatology* 2023;75(3):411-423  
**Agents:** MCCK1 **Vehicle:** PBS; **Route:** CSF/CNS (right lateral ventricle); **Species:** Mice; **Strain:** MRL/lpr; **Duration:** 14 days;  
**ALZET Comments:** Controls received mp w/ vehicle; animal info: 6 week old; ALZET BIK III used; Brain coordinates (1.1 mm lateral, -0.5 mm anterioposterior to the bregma, and 2.5 mm deep to target the right lateral ventricle); behavioral testing (Open field test; Novel objective recognition test; Object location test); MCCK1 is an IKK $\beta$  inhibitor; (lupus)

**Q11080:** B. Jiang, *et al.* Hedgehog-induced ZFYVE21 promotes chronic vascular inflammation by activating NLRP3 inflammasomes in T cells. *Science Signaling* 2023;16(Agents: Vismodegib; GANT61; MCC950; SAG **Vehicle:** Not Stated;  
**Route:** SC; **Species:** Mice; **Strain:** SCID/bg; **Pump:** 1004; **Duration:** 28 days;  
**ALZET Comments:** Dose (Vismodegib 12 mg/kg/day; GANT61 6 mg/kg/day; MCC950 4 mg/kg/day, SAG 15 mg/kg/day); Controls received mp w/ vehicle; animal info (Female; 6-12 weeks old); immunology;

**Q11312:** H. Hong, *et al.* A novel role of lactate: Promotion of Akt-dependent elongation of microglial process. *International Immunopharmacology* 2023;119(110136  
**Agents:** LY294002 **Vehicle:** DMSO; **Route:** CSF/CNS (left lateral ventricle); **Species:** Mice; **Strain:** C57BL/J; **Pump:** 2002; 1003D;  
**Duration:** Not Stated;  
**ALZET Comments:** Dose (5 ug/ml); Controls received mp w/ vehicle; 3% DMSO used; animal info (Male; 8 weeks old); behavioral testing (Tail Suspension; Forced Swim); brain coordinates: (-0.2 mm anteriorly, 1.0 mm laterally relative to bregma, 2.3 mm below the cranial surface); immunology; "The results showed that intracerebroventricular infusion of LY294002 abolished the preventive effect of lactate on LPS-induced increase in immobility time in TST (Fig. 9I) and FST (Fig. 9J)

**Q11306:** H. B. Figueiredo Galvao, *et al.* Proteasome inhibition reduces plasma cell and antibody secretion, but not angiotensin II-induced hypertension. *Frontiers in Cardiovascular Medicine* 2023;10(1184982  
**Agents:** Ang II **Vehicle:** Acetic acid in saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL6/J; **Pump:** 2004; **Duration:** 28 days;  
**ALZET Comments:** Dose (0.7 mg/kg/day); 0.1% acetic acid in saline used; animal info (Male; 8-14 weeks old; Weighed about 30 g); Blood pressure measured via tail-cuff method; peptides; immunology;

**Q11101:** M. Falcinelli, *et al.* Propranolol reduces IFN-gamma driven PD-L1 immunosuppression and improves anti-tumour immunity in ovarian cancer. *Brain Behavior and Immunity* 2023;110(1-12  
**Agents:** Propranolol **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6; **Pump:** Not Stated; **Duration:** Not Stated;  
**ALZET Comments:** Dose (2 mg/kg/d); Controls received mp w/ vehicle; animal info (Female; 6-8 weeks old); cancer (Epithelial ovarian); immunology;

**R0450:** P. Chakraborty, *et al.* Helminth-derived biomacromolecules as therapeutic agents for treating inflammatory and infectious diseases: What lessons do we get from recent findings? *International Journal of Biological Macromolecules* 2023;241(124649  
**Agents:** ES-62 **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Not Stated; **Strain:** Not Stated; **Pump:** Not Stated;  
**Duration:** 12 weeks;  
**ALZET Comments:** Dose (0.2 lg/h); immunology;

**Q11241:** N. Ben-Shalom, *et al.* beta2-adrenergic signaling promotes higher-affinity B cells and antibodies. *Brain Behavior and Immunity* 2023;113(66-82  
**Agents:** ICI-118,551 **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** Not Stated; **Duration:** 7 days;  
**ALZET Comments:** Dose (1 mg/kg/day); Controls received mp w/ vehicle; animal info (Male; 8-12 weeks old); ICI 118,51 is a B2AR selective blocker; immunology;



- Q11065:** Y. Bai, *et al.* Single-nucleus RNA sequencing unveils critical regulators in various hippocampal neurons for anti-N-methyl-D-aspartate receptor encephalitis. *Brain Pathology* 2023;33(4):e13156  
**Agents:** Anti-N-methyl-D-aspartate receptor antibody **Vehicle:** Saline; **Route:** CSF/CNS (lateral ventricle); **Species:** Mice; **Strain:** C57BL/6; **Pump:** 2002; **Duration:** Not Stated;  
**ALZET Comments:** Dose (2 µg/ml); animal info (Female; 8-10 weeks old); behavioral testing (Shuttle box active escape experiment; Elevated plus-maze test; Open-field test; 3 chamber test; Forced swimming test; Marble burying test; Novel object recognition; Nest building test); ALZET brain infusion kit 3 used; good methods pg. 3; immunology
- Q10928:** F. Andreozzi, *et al.* Glucagon induces the hepatic expression of inflammatory markers in vitro and in vivo. *Diabetes Obesity & Metabolism* 2023;25(2):556-569  
**Agents:** Glucagon **Vehicle:** Saline, sterile; **Species:** Mice; **Strain:** Hsd:ICR (CD-1); **Pump:** 1004; **Duration:** 28 days;  
**ALZET Comments:** Dose (1 µg/h); 0.9% saline used; Controls received mp w/ vehicle; animal info (Four-week-old male mice); functionality of pump verified by measuring residual volume; diabetes; immunology
- Q10726:** H. V. Willingenburg, *et al.* Validation of a Dried Blood Spot Method to Measure Tacrolimus Concentrations in Small Volumes of Mouse Blood. *Bioanalysis* 2022;  
**Agents:** Tacrolimus **Vehicle:** DMSO; EtOH; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** 2004; **Duration:** 28 days;  
**ALZET Comments:** Dose (1 or 3 mg/kg/day); 50% DMSO and EtOH used; animal info (Female; Male; 12-20 months old); immunology;
- Q11226:** E. Toda, *et al.* Inhibition of the chemokine signal regulator FROUNT by disulfiram ameliorates crescentic glomerulonephritis. *Kidney International* 2022;102(6):1276-1290  
**Agents:** Disulfiram; DSF-41 **Vehicle:** 2-hydroxypropyl-beta-cyclodextrin; **Route:** Not Stated; **Species:** Rat; **Strain:** Wistar-Kyoto; **Pump:** 2ML1; **Duration:** Not Stated;  
**ALZET Comments:** Dose: Disulfiram 100 mg/kg per day; DSF-41 20 mg/kg; 50% 2-hydroxypropyl-beta-cyclodextrin vehicle used; Controls received mp w/ vehicle; immunology
- Q10700:** C. L. Thio, *et al.* The Ketone Body Beta-Hydroxybutyrate Mitigates ILC2-Driven Airway Inflammation by Regulating Mast Cell Function. *Cell Reports* 2022;40(13):111437  
**Agents:** Beta-hydroxybutyrate **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** Not Stated; **Duration:** 14 d  
**ALZET Comments:** Dose: (2.5 mg/ml) Controls received mp w/ vehicle; animal info: Age-matched (6–8 weeks) female mice; immunology
- Q10653:** M. Radosevic, *et al.* Allosteric Modulation of NMDARs Reverses Patients' Autoantibody Effects in Mice. *Neurology Neuroimmunology & Neuroinflammation* 2022;9(1):  
**Agents:** CSF, patient; CSF, control **Vehicle:** Not Stated; **Route:** CSF/CNS (intracerebroventricular); **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 1002; **Duration:** 14 days;  
**ALZET Comments:** animal info (141 male ; 8-10 weeks old); immunology; Therapeutic indication (Anti-NMDAR encephalitis);
- Q10638:** Y. Ozaki, *et al.* Neuron-Derived Neurotrophic Factor Protects Against Dexamethasone-Induced Skeletal Muscle Atrophy. *Biochemical and Biophysical Research Communications* 2022;593(5-12)  
**Agents:** Dexamethasone **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Mice; **Strain:** Wild-type; NDNF-KO; **Pump:** 2002; **Duration:** 14 days;  
**ALZET Comments:** Dose (23 µg/day); Controls received mp w/ vehicle; animal info (; 8-10 weeks old); immunology; Therapeutic indication (Muscle atrophy);
- Q10633:** B. M. Oliveira, *et al.* Calcitriol Reduces the Inflammation, Endothelial Damage and Oxidative Stress in AKI Caused by Cisplatin. *International Journal of Molecular Science* 2022;23(24):  
**Agents:** Calcitriol **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Strain:** Hannover; **Pump:** 2004; **Duration:** 5 days;  
**ALZET Comments:** Dose (6 ng/day),(0.9% NaCl) used; Controls received mp w/ vehicle; animal info (male 200–300 g) immunology;



**Q11172:** C. R. Leibrand, *et al.* Independent actions by HIV-1 Tat and morphine to increase recruitment of monocyte-derived macrophages into the brain in a region-specific manner. *Neuroscience Letters* 2022;788(136852)

**Agents:** Morphine **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** Tat+; Tat-; **Pump:** 2002; 2001; **Duration:** 19 days; **ALZET Comments:** Dose: 0.77 mg/day; 1.5 mg/day; animal info: adult, female mice approx. 70 days of age; post op. care: bupivacaine applied to all surgical sites immediately after implantation; immunology; dependence

**Q10585:** T. Kumagawa, *et al.* Anti-Inflammatory Effect of P2Y1 Receptor Blocker MRS2179 in a Rat Model of Traumatic Brain Injury. *Brain Research Bulletin* 2022;181(46-54)

**Agents:** MRS2179 **Vehicle:** CSF, artificial; **Route:** SC; **Species:** Rat; **Strain:** Not Stated; **Pump:** 2001; **Duration:** Not Stated; **ALZET Comments:** Controls received mp w/ vehicle; animal info (Male; Weighed 258-462 g; 30 total used); behavioral testing (Beam walk test, Neurological response test, Plus maze test); ALZET brain infusion kit 2 used; immunology; Therapeutic indication (Cerebral contusion injury);

**Q10584:** K. Kudo, *et al.* Secreted Phospholipase A(2) Modifies Extracellular Vesicles and Accelerates B Cell Lymphoma. *Cell Metabolism* 2022;34(4):615-633 e8

**Agents:** Varespladib **Vehicle:** Sulfobutylether-beta-cyclodextrin; **Route:** Intraspinal; **Species:** Mice; **Strain:** NOG; **Pump:** 2006; 1004; **Duration:** 3 weeks; **ALZET Comments:** Dose (1 ug/g body weight/day); Controls received mp w/ vehicle; mouse jugular catheter used; animal info: humanized mice; Varespladib is a sPLA2 inhibitor; immunology;

**Q11163:** T. Kotani, *et al.* Human MIKO-1, a Hybrid Protein That Regulates Macrophage Function, Suppresses Lung Fibrosis in a Mouse Model of Bleomycin-Induced Interstitial Lung Disease. *International Journal of Molecular Sciences* 2022;23(17):

**Agents:** Bleomycin **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** Not Stated; **Duration:** 7 days; **ALZET Comments:** Dose: 0.03 mg/ul; 0.9% NaCl vehicle used Controls received mp w/ vehicle; animal info: Female 13-week-old; immunology; Therapeutic indication (Interstitial lung disease);

**Q10580:** H. Kosaka, *et al.* Role of Substance P-Dependent Chemotactic Signaling in Postoperative Adhesion Formation. *Journal of Surgical Research* 2022;270(49-57)

**Agents:** SB225002 **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** Wild-type BALB/c; **Pump:** 2001D; **Duration:** 24 h **ALZET Comments:** Dose (800 ug/mouse); animal info ( mice; 20 g); SB225002 is a CSCR2 antagonist; immunology;

**Q10579:** J. Kopecky, *et al.* Intratumoral Administration of the Antisecretory Peptide AF16 Cures Murine Gliomas and Modulates Macrophage Functions. *Scientific Reports* 2022;12(1):4609

**Agents:** Temozolomide; AF16 **Vehicle:** Not Stated; **Route:** CSF/CNS (intratumoral); **Species:** Mice; **Strain:** C57BL/6; **Pump:** 1003D; **Duration:** 3 days; **ALZET Comments:** Dose (180 mg/72 ul; 300 ug/72 ul); animal info (Female; 8-10 weeks old); peptides; cancer (Glioblastoma);

**Q11216:** A. Kopecky. Novel methods of malignant brain tumor utilizing the tumor microenvironment. *Lund University, Faculty of Medicine* 2022;

**Agents:** Trimetazidine **Vehicle:** Saline; **Route:** CSF/CNS (intratumoral); **Species:** Mice; **Strain:** Not Stated; **Pump:** Not Stated; **Duration:** Not Stated; **ALZET Comments:** Dose (180µg); Controls received mp w/ vehicle; comparison of single injection w/ mp; cancer (Glioblastoma multiforme); immunology; "This route circumvents the blood-brain barrier that normally excludes a wide spectrum of chemotherapeutics from being used in malignant brain tumor patients due to their impassable electrochemical characteristics."

**R0440:** M. Jurczyk, *et al.* Nanoparticles Loaded with Docetaxel and Resveratrol as an Advanced Tool for Cancer Therapy. *Biomedicines* 2022;10(5):

**Agents:** Docetaxel; resveratrol; **Route:** SC; **Species:** Mice; **Duration:** 1 month; **ALZET Comments:** immunology; cancer therapy



**Q10948:** H. Ishigooka, *et al.* Novel Complement C5 Small-interfering RNA Lipid Nanoparticle Prolongs Graft Survival in a Hypersensitized Rat Kidney Transplant Model. *Transplantation* 2022;106(12):2338-2347

**Agents:** Cyclosporin **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Rat; **Strain:** Lewis; **Pump:** 2ML4; **Duration:** 7 days; **ALZET Comments:** Dose (CsA 0.3 mg/body/day); animal info (Male); immunology (CsA is an immunosuppressant); nephrology

**Q10543:** C. Hemmers, *et al.* Chemokine CCL9 Is Upregulated Early in Chronic Kidney Disease and Counteracts Kidney Inflammation and Fibrosis. *Biomedicines* 2022;10(2):

**Agents:** CCL6; CCL9 **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** C57BL/6J; **Pump:** 2002; **Duration:** Not Stated; **ALZET Comments:** Dose (1µg/day); 0.9% NaCl used; Controls received mp w/ vehicle; animal info (Female; 8-12 weeks old; ); immunology (chronic kidney disease)

**Q10530:** E. Gondoh, *et al.* Possible mechanism for improving the endogenous immune system through the blockade of peripheral mu-opioid receptors by treatment with naldemedine. *British Journal of Cancer* 2022;127(8):1565-1574

**Agents:** Naltrexone, methyl- **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** ICR; **Pump:** Not Stated; **Duration:** 21 days; **ALZET Comments:** "Dose: (0.1 ml/10g)Controls received mp w/ vehicle; animal info: Male mice (20–25 g)behavioral testing: Hot-plate test; methylnaltrexone is a peripheral MOR antagonist; immunology

**Q10479:** A. Freuchet, *et al.* IL-34 deficiency impairs FOXP3(+) Treg function in a model of autoimmune colitis and decreases immune tolerance homeostasis. *Clinical and Translational Medicine* 2022;12(8):e988

**Agents:** Interleukin-34, recombinant human **Route:** IP; **Species:** Mice; **Strain:** NOD/SCID/Il2rg<sup>-/-</sup>; NSG; **Pump:** 1004; **Duration:** 14 days; **ALZET Comments:** Dose: (.42 µg/h); animal info: ) 8–12-week-old; peptide; immunology;

**Q10470:** T. Emoto, *et al.* Colony stimulating factor-1 producing endothelial cells and mesenchymal stromal cells maintain monocytes within a perivascular bone marrow niche. *Immunity* 2022;55(5):862-878 e8

**Agents:** Immunoglobulin G1, rat isotype; anti-CSF-1 antibody; immunoglobulin G2b, rat isotype; anti-CD115 antibody **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** Wildtype: C57Bl/6J; **Pump:** 2001; **Duration:** 7 days; **ALZET Comments:** Dose: (IgG1, anti-CSF-1: 50 ug/day; IgG2b, anti-CD115: 135 ug/day); Controls received mp w/ vehicle; animal info: mice,8-10 weeks of age, Female and male reporter mice; Immunoglobulin G1 aka (IgG1); immunology;

**Q10464:** P. Ding, *et al.* Toll-like receptor 9 deficiency induces osteoclastic bone loss via gut microbiota-associated systemic chronic inflammation. *Bone Research* 2022;10(1):42

**Agents:** TNF alpha antibody; IgG **Route:** SC; **Species:** Mice; **Strain:** TLR9<sup>-/-</sup>; Wild-type; **Duration:** 6 weeks; **ALZET Comments:** animal info: 6-week-old male mice; Immunoglobulin G aka (IgG); immunology

**Q10599:** L. Di Cesare Mannelli, *et al.* Neuronal Alarmin IL-1alpha Evokes Astrocyte-Mediated Protective Signals: Effectiveness in Chemotherapy-Induced Neuropathic Pain. *Neurobiology of Disease* 2022;168(105716

**Agents:** Interleukin-1a **Vehicle:** Saline; **Route:** CSF/CNS (intrathecal); **Species:** Rat; **Pump:** 1002; **Duration:** 10 days; **ALZET Comments:** Dose (0.25 mL/h); Controls received mp w/ vehicle; animal info (Male; Weighed about 200-250 g); behavioral testing (Paw pressure test; Cold plate test); immunology;

**Q10369:** U. Chalise, *et al.* S100A9 is a functional effector of infarct wall thinning after myocardial infarction. *Heart and Circulatory Physiology* 2022;322(2):H145-H155

**Agents:** S100A8, recombinant; S100A9, recombinant **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** 2001D; 1003D; **Duration:** 3 h; 24 h; **ALZET Comments:** Dose (3.2 g/day); Controls received mp w/ vehicle; animal info (Male; 3-6 months old); immunology;

**Q10409:** C. P. Basole, *et al.* Treatment of Experimental Autoimmune Encephalomyelitis with an Inhibitor of Phosphodiesterase-8 (PDE8). *Cells* 2022;11(4):

**Agents:** PF-04957325 **Vehicle:** DMSO; PBS; **Route:** SC; **Species:** Mice; **Duration:** 14 days; **ALZET Comments:** Dose (15.5 mg/kg/day); Controls received mp w/ vehicle; animal info (Female; 4-6 weeks old); immunology; Therapeutic indication (Inflammatory disorders);



**Q10414:** L. Bourhy, *et al.* Silencing of amygdala circuits during sepsis prevents the development of anxiety-related behaviours. *Brain* 2022;145(4):1391-1409

**Agents:** Levetiracetam **Vehicle:** Saline; **Route:** CSF/CNS (right lateral ventricle); **Species:** Mice; **Strain:** C57Bl/6Jrj;  
**Pump:** 1003D; **Duration:** 3 days;

**ALZET Comments:** Dose: (1 µl/h); Controls received mp w/ vehicle; animal info: Adult 2–5months old wild-type male mice and adult male and female FOS-CreERT2; post op. care: treated with (0.1 mg/kg) buprenorphine 30 mins. before surgery; behavioral testing (Morris water maze; novel object location/recognition; Open field test; Light/dark box test; olfactory habituation; fear conditioning); Levetiracetam aka (LEV); ALZET brain infusion kit 3 used; Brain coordinates (stereotaxic coordinates relative to bregma, antero-posterior: –0.5 mm; medial lateral: 1 mm; dorsoventral: 2.5 mm); dental cement used; liquid bonding resin; dental acrylic; neurodegenerative (anxiety; PTSD); immunology

**Q10930:** L. P. Blanco, *et al.* Modulation of the Itaconate Pathway Attenuates Murine Lupus. *Arthritis & Rheumatology* 2022;74(12):1971-1983

**Agents:** Itaconate, 4-octyl **Vehicle:** Cyclodextrin, 2-hydroxypropyl-beta; **Route:** SC; **Species:** Mice; **Strain:** NZW × NZB;  
**Pump:** 2006; **Duration:** Not Stated;

**ALZET Comments:** Dose (14 µg/kg/minute); 40% 2-hydroxypropyl-beta cyclodextrin used; Controls received mp w/ vehicle; animal info (Female 30 weeks old ()); immunology; nephrology; lupus

**Q10447:** J. A. Blakeley-Ruiz, *et al.* Morphine and high-fat diet differentially alter the gut microbiota composition and metabolic function in lean versus obese mice. *ISME Communications* 2022;2(1):

**Agents:** Morphine sulfate **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** Not Stated; **Duration:** 2 weeks;

**ALZET Comments:** Dose (10 mg/kg/day); Controls received mp w/ vehicle; animal info (18 total; Control group fed standard mouse diet; 2nd group w/ diet-induced obesity by eating 60% fat diet; 3rd group fed standard diet yet obese due to spontaneous mutation of leptin receptor); immunology; "This study shows that an antinociceptive dose of morphine administered continuously for two weeks via a subcutaneous osmotic pump altered the composition of the gut microbiota in mice."

**Q10497:** Q. Bi, *et al.* Microglia-derived PDGFB promotes neuronal potassium currents to suppress basal sympathetic tonicity and limit hypertension. *Immunity* 2022;55(8):1466-1482 e9

**Agents:** Diphtheria toxin; Growth factor, platelet-derived **Vehicle:** PBS; **Route:** CSF/CNS (intracerebroventricular); **Species:** Mice; **Strain:** CD11b- DTR; **Pump:** 1002; **Duration:** 2 weeks;

**ALZET Comments:** Dose: (Diphtheria toxin 0.5 ng/g/day; PDGF 2.5 ng/g/day); animal info: mice; Blood pressure measured via: Tail cuff; Blood pressure measurement (p.1468) see fig.1F; ALZET brain infusion kit 3 used; Brain coordinates (0.3-0.5 mm post Bregma; 1-1.5 mm lateral to the midline; 3 mm ventral to the dura); bio-adhesive glue;

**Q10396:** S. Alvente, *et al.* Pilot Study of the Effects of Chronic Intracerebroventricular Infusion of Human Anti-IgLON5 Disease Antibodies in Mice. *Cells* 2022;11(6):1024-1048

**Agents:** Pt-IgG; Ctrl-IgG **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Strain:** Not Stated; **Pump:** 1002; **Duration:** 14 days;

**ALZET Comments:** Dose (0.25 µL/h); animal info (19-22 weeks old; Female); behavioral testing (Water-licking behavior); Pt-IgG aka human anti-IgLON5 IgG, Ctrl-IgG aka IgG from patient without IgLON5 disease; Brain coordinates (0.6 mm posterior and 1 mm lateral to bregma at a depth of 2 mm); bilateral cannula used; dental cement used; neurodegenerative; immunology

**Q10401:** N. Agarwal, *et al.* Heightened levels of plasma growth differentiation factor 15 in men living with HIV. *Physiological Reports* 2022;10(9):e15293

**Agents:** Synthetic Vpr **Vehicle:** Water, sterile; **Route:** SC; **Species:** Mice; **Strain:** Wild-type FVBN; **Duration:** 14 days;

**ALZET Comments:** "Dose: (5 ug/day); Controls received mp w/ vehicle; animal info: mice 14 to 16 week-old male mice; Synthetic Vpr aka (sVPR); peptides; immunology; HIV"



**Q10400:** K. M. Adusei, *et al.* Development of a high-color flow cytometry panel for immunologic analysis of tissue injury and reconstruction in a rat model. *Cells Tissues Organs* 2022;

**Agents:** Saline **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Strain:** Not Stated; **Pump:** 2ML4; **Duration:** 1 week;

**ALZET Comments:** animal info (Male; 10-12 weeks of age); post op. care (Buprenorphine 1mg/kg); immunology; Therapeutic indication (Tissue injury);

**Q11331:** S. Saigo, *et al.* Blood Pressure Elevation of Tubular Specific (P)RR Transgenic Mice and Lethal Tubular Degeneration due to Possible Intracellular Interactions between (P)RR and Alternative Renin Products. *International Journal of Molecular Sciences* 2021;23(1):

**Agents:** Bafilomycin **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Mice; **Strain:** Ksp-(P)RR transgenic; WT; **Pump:** Not Stated; **Duration:** Not Stated;

**ALZET Comments:** Dose (0.03 ug/g/day); animal info (10-weeks old; Male; Normal salt diet); Blood pressure measured via tail-cuff method; immunology;

**Q10835:** B. Xu, *et al.* An Oncolytic Virus Expressing a Full-Length Antibody Enhances Antitumor Innate Immune Response to Glioblastoma. *Nature Communications* 2021;12(1):5908

**Agents:** aCD47-G1 **Vehicle:** Saline; **Route:** CSF/CNS; **Species:** Mice; **Strain:** athymic nude; **Pump:** 1003D; **Duration:** 72 hours;

**ALZET Comments:** Dose: 24 ug/day; Controls received mp w/ vehicle; animal info: Six- to eight-week-old female mice CT2A GBM model; ALZET brain infusion kit 3 used; Brain coordinates (2mm lateral and 1mm anterior to bregma at a depth of 3 mm); immunology;

**Q10728:** H. Y. Won, *et al.* The Timing and Abundance of IL-2Rbeta (CD122) Expression Control Thymic iNKT Cell Generation and NKT1 Subset Differentiation. *Frontiers in Immunology* 2021;12(642856)

**Agents:** Interleukin-15 **Vehicle:** PBS; **Route:** Not Stated; **Species:** Mice; **Strain:** Il-2RBTg BALB/c; **Pump:** 1002;

**ALZET Comments:** Dose: (3 µg); Controls received mp w/ vehicle; animal info: mice; Interleukin -15 aka (IL-15)immunology; "the frequency of CD8 T cells and specifically the number of CD44hi CXCR3+ memory phenotype CD8 T cells were substantially increased in mice that were implanted with IL-15- but not with PBS-releasing pumps"

**Q10761:** S. Wang, *et al.* Role of Extracellular MicroRNA-146a-5p in Host Innate Immunity and Bacterial Sepsis. *iScience* 2021;24(12):103441

**Agents:** microRNA-146a-5p **Vehicle:** Lipofectamine; **Route:** SC; **Species:** Mice; **Strain:** miR146a-KO; **Pump:** Not Stated; **Duration:** 3 days;

**ALZET Comments:** Dose (50 ug/mouse/day); animal info (Male; ; 9-12 weeks old; Weighed 20-30 g); immunology;

**R0401:** G. I. Vazquez Cervantes, *et al.* New Immunotherapeutic Approaches for Glioblastoma. *Journal of Immunology Research* 2021;2021(3412906)

**Agents:** D2C7-exotoxin **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Mice;

**ALZET Comments:** Epidermal growth factor receptor also (EGFRvIII); immunology; cancer (immunotherapy)

**Q10712:** T. Utsunomiya, *et al.* Different Effects of Intramedullary Injection of Mesenchymal Stem Cells During the Acute vs. Chronic Inflammatory Phase on Bone Healing in the Murine Continuous Polyethylene Particle Infusion Model. *Frontiers in Cell and Developmental Biology* 2021;9(631063)

**Agents:** Polyethylene particles, contaminated **Vehicle:** BSA; PBS; **Route:** SC; **Species:** Mice; **Strain:** BALB/c; **Pump:** 2006;

**Duration:** 6 weeks;

**ALZET Comments:** Dose:  $3.1 \times 10^{10}$  particles/ml; 10% BSA/PBS vehicle used; Controls received mp w/ vehicle; animal info: 11–12-week-old male mice; post op. care: (0.1 mg/kg of buprenorphine); Contaminated polyethylene particles aka (cPE)d; vinyl catheter used; pumps replaced every 3 weeks; immunology (chronic inflammation, bone healing)