



**Recent References (2017-2020) on Immunology Research
Using ALZET® Osmotic Pumps**

Q8627: J. Leslie, *et al.* FPR-1 is an important regulator of neutrophil recruitment and a tissue-specific driver of pulmonary fibrosis. *JCI Insight* 2020;5(4):

Agents: Antibody, Ly6G; Antibody, IgG2a **Vehicle:** Not stated; **Route:** SC; **Species:** Mice; **Pump:** 2004; 1007D; **Duration:** 21 days; 1 day;

ALZET Comments: Dose (28.5 µg/ mouse/d; 57 µg/mouse/d); animal info (C57BL/6 and fpr1-/- mice (male, 8–10 weeks old)); Ly6G Antibody aka 2A3; IgG2a Antibody aka 1A8; immunology;

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

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

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

Q8592: T. Kohsaka, *et al.* Efficacy of relaxin for cisplatin-induced testicular dysfunction and epididymal spermatotoxicity. *Basic Clin Androl* 2020;30(3)

Agents: cis-Diammineplatinum (II) dichloride **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2001; **Duration:** 5 days;

ALZET Comments: Dose (500 ng/h); Controls received mp w/ vehicle; animal info (Sprague-Dawley male rats (7-weeks old)); cis-Diammineplatinum (II) dichloride aka CP; immunology;

Q8523: L. Guyonnet, *et al.* Deletion of the myeloid endothelin-B receptor confers long-term protection from angiotensin II-mediated kidney, eye and vessel injury. *Kidney Int* 2020;98(5):1193-1209

Agents: Angiotensin II **Vehicle:** Not stated; **Route:** SC; **Species:** Mice; **Pump:** 2006; **Duration:** 6 weeks;

ALZET Comments: Dose (1µg/kg/min); Blood pressure measured via radio-telemetry system; Angiotensin II aka ANG II; immunology;

Q8490: J. R. Godin, *et al.* A silent agonist of alpha7 nicotinic acetylcholine receptors modulates inflammation ex vivo and attenuates EAE. *Brain Behav Immun* 2020;87(286-300)

Agents: Mecamylamine; 1-ethyl-4-(3-(bromo)phenyl)piperazine; **Vehicle:** PBS; DMSO; **Route:** SC; **Species:** Mice; **Pump:** 2002; **Duration:** 14 days;

ALZET Comments: Dose (6.5 mg/kg/day); 5% DMSO used; Controls received mp w/ vehicle; animal info (C57BL/6J mice); 1-ethyl-4-(3-(bromo)phenyl)piperazine aka m-bromo PEP; immunology;

Q8466: G. Fernandez Lahore, *et al.* Vitamin D3 receptor polymorphisms regulate T cells and T cell-dependent inflammatory diseases. *Proc Natl Acad Sci U S A* 2020;117(40):24986-24997

Agents: Vitamin D3 **Vehicle:** Propylene Glycol; **Route:** SC; **Species:** Mice; **Pump:** Not stated; **Duration:** 1 day;

ALZET Comments: Dose (1000 IU/kg); Controls received mp w/ vehicle; animal info (QB Mice, 10 weeks old); immunology;

Q8458: J. Enriquez Perez, *et al.* Convection-enhanced delivery of temozolomide and whole cell tumor immunizations in GL261 and KR158 experimental mouse gliomas. *BMC Cancer* 2020;20(1):7

Agents: Temozolomide **Vehicle:** PBS; Saline; **Route:** CSF/CNS (intratumoral); **Species:** Mice; **Pump:** 1003D; **Duration:** 3 days;

ALZET Comments: Dose (2.4mg/Kg/day); 0.9% NaCl used; Controls received mp w/ vehicle; animal info (C57BL/6 female mice 8–10weeks old); temozolomide aka TMZ; ALZET brain infusion kit 3 used; Brain coordinates (1.5 mm to the right and 1.0 mm anterior of the bregma); immunology;

Q7496: J. P. Van Beusecum, *et al.* Isolation and Adoptive Transfer of High Salt Treated Antigen-presenting Dendritic Cells. *J Vis Exp* 2019;145):

Agents: Angiotensin II **Vehicle:** Saline, Acetic Acid; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 14 days;

ALZET Comments: Dose (140 ng/kg/min); animal info (naïve male 10 week-old C57bl/6 mice); immunology;



Q7493: O. K. Travis, *et al.* Chronic infusion of interleukin-17 promotes hypertension, activation of cytolytic natural killer cells, and vascular dysfunction in pregnant rats. *Physiol Rep* 2019;7(7):e14038

Agents: Interleukin-17, A-F **Vehicle:** Not Stated; **Route:** IP; **Species:** Rat; **Pump:** 2002; **Duration:** 7 days;

ALZET Comments: Dose (150 pg/day,); animal info (pregnant Sprague-Dawley rats 250-275g); immunology;

Q6798: B. Smith, *et al.* Generation of two high affinity anti-mouse FcRn antibodies: Inhibition of IgG recycling in wild type mice and effect in a mouse model of immune thrombocytopenia. *Int Immunopharmacol* 2019;66(362-365

Agents: Antibody, anti CD41 **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 3 days;

ALZET Comments: Dose (1 µg/day); animal info (male BALB/c mice (> 8 weeks of age)); 4470 and 4464 are anti-CD41 antibodies; immunology; Therapeutic indication (immune thrombocytopenia);

Q7483: Shwetank, *et al.* PD-1 Dynamically Regulates Inflammation and Development of Brain-Resident Memory CD8 T Cells During Persistent Viral Encephalitis. *Front Immunol* 2019;10(783

Agents: Immunoglobulin G, control rat; Immunoglobulin G, PD-L1 rat **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Mice; **Pump:** 2002; **Duration:** 14 days;

ALZET Comments: Dose (6 mg/ml); animal info (C57BL/6Ncr (WT) female mice); ALZET brain infusion kit 3 used; Brain coordinates (1.0mm lateral to midline, 0.1mm

posterior to bregma, and 3.0mm dorsoventral to the skull); cyanoacrylate adhesive; immunology;

Q8288: C. M. Minutti, *et al.* A Macrophage-Pericyte Axis Directs Tissue Restoration via Amphiregulin-Induced Transforming Growth Factor Beta Activation. *Immunity* 2019;50(3):645-654 e6

Agents: Integrin-av inhibitor **Vehicle:** DMSO; **Route:** SC; **Species:** Mice; **Pump:** 1007D; **Duration:** Not stated;

ALZET Comments: Dose (100 mg/kg/day); 50% DMSO used; Controls received mp w/ vehicle; Integrin-av inhibitor aka CHWM12; enzyme inhibitor (Integrin-av inhibitor); immunology;

Q7559: T. Matsuo, *et al.* Strain-Specific Manifestation of Lupus-like Systemic Autoimmunity Caused by Zap70 Mutation. *J Immunol* 2019;202(11):3161-3172

Agents: Poly(I:C), LPS, imiquimod, CpG-ODN1668 **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 1002, 1004;

Duration: 14 days, 28 days;

ALZET Comments: Dose (700 ug- Poly(I:C), 280 ug-LPS, 280 ug-imiquimod, 280 ug-CpG-ODN1668); animal info (C57BL/6J); LPS aka TLR4 agonist, imiquimod aka TLR7 agonist, CpG aka TLR9 agonist, Poly(I:C) aka TLR3 agonist; immunology;

Q8280: D. R. Mathern, *et al.* Absence of recipient C3aR1 signaling limits expansion and differentiation of alloreactive CD8(+) T cell immunity and prolongs murine cardiac allograft survival. *Am J Transplant* 2019;19(6):1628-1640

Agents: C3aR1 antagonist **Vehicle:** DMSO; **Route:** SC; **Species:** Mice; **Pump:** Not stated; **Duration:** 14 days;

ALZET Comments: Dose (1 mmol/L); 10% DMSO used; animal info (8 weeks old); immunology;

Q8279: F. Matheis, *et al.* 2019;

Agents: Selective β₂-AR agonist **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** Not stated; **Duration:** 14 days;

ALZET Comments: Dose (400 ug/day); Controls received mp w/ vehicle; animal info (C57BL/6, 7-12 weeks old); Selective β₂-AR agonist aka Salbutamol Sulfate); immunology;

Q8267: M. Lombardi, *et al.* Detrimental and protective action of microglial extracellular vesicles on myelin lesions: astrocyte involvement in remyelination failure. *Acta Neuropathol* 2019;138(6):987-1012

Agents: Extracellular Vesicles **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1007D; **Duration:** 4 days;

ALZET Comments: Dose (1.5 ul/hr); Controls received mp w/ vehicle; animal info (2.5-4 months old, C57BL/6); Extracellular vesicles aka EV; immunology;

Q8261: Y. Liu, *et al.* Complementary Roles of GCN5 and PCAF in Foxp3+ T-Regulatory Cells. *Cancers (Basel)* 2019;11(4):

Agents: Tat peptide; H3-20-CoA-Tat **Vehicle:** Not stated; **Route:** SC; **Species:** Mice; **Pump:** Not stated; **Duration:** 14 days;

ALZET Comments: Dose (10 uM); Controls received mp w/ vehicle; animal info (BALB/c); peptides; immunology;



Q7620: N. Kokuho, *et al.* Analyses of alveolar epithelial injury via lipid-related stress in mammalian target of rapamycin inhibitor-induced lung disease. *Lab Invest* 2019;99(6):853-865

Agents: Bleomycin hydrochloride **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 2001; **Duration:** 14 days;
ALZET Comments: Dose (100 mg/kg); Controls received i.p. injection w/ DMSO; animal info (7 weeks, female, C57BL/6); comparison of i.p. temsirolimus injection vs mp; BLM causes marked inflammation and epithelial injury in the lung; immunology; BLM dissolved in saline for pump (injury group) although controls used i.p. injected DMSO;

Q7599: Z. Huang, *et al.* Antibody neutralization of microbiota-derived circulating peptidoglycan dampens inflammation and ameliorates autoimmunity. *Nat Microbiol* 2019;4(5):766-773

Agents: glutamine, muramyl-l-alanyl-d-iso- **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 24 days;
ALZET Comments: Dose (200µl of 1, 2.5, 5mg/ml MDP); Controls received mp w/ vehicle; animal info (8-10 weeks, male, DBA/1J); functionality of mp verified by icELISA of collected serum; muramyl-l-alanyl-d-iso-glutamine (MDP) is a conserved and minimal immunostimulatory structure of bacterial peptidoglycan; immunology; 1 and 5 mg/ml solutions used to assess the effect of stably elevated MDP levels on arthritis while 2.5 and 5 mg/ml solutions used to reach and maintain elevated levels of circulating PGN over an extended period for disease development;

Q7583: J. D. Hill, *et al.* Chronic Intrahippocampal Infusion of HIV-1 Neurotoxic Proteins: A Novel Mouse Model of HIV-1 Associated Inflammation and Neural Stem Cell Dysfunction. *J Neuroimmune Pharmacol* 2019;

Agents: envelope glycoprotein gp120; transactivator of transcription **Vehicle:** CSF, artificial; **Route:** CSF/CNS (hippocampus); **Species:** Mice; **Pump:** 1002; **Duration:** 14 days;
ALZET Comments: Dose ((gp120 36 ng/day), (tat 18 ng/day)); Controls received mp w/ vehicle; animal info (12 weeks, male, C57BL/6); gp120 and tat are HIV-1 neurotoxic proteins; ALZET brain infusion kit 3 used; Brain coordinates (-2.0mm antero-posterior, +1.5mm medial-lateral, -1.5mm dorso-ventral); immunology;

Q7344: R. Gutierrez Jauregui, *et al.* IL-1beta Promotes Staphylococcus aureus Biofilms on Implants in vivo. *Front Immunol* 2019;10(1082)

Agents: Interleukin-1 beta; Interleukin-6; Interleukin-10; Interleukin-12; Interleukin-17; Interleukin-23; Interferon, gamma; Tumor Necrosis Factor, alpha; Interleukin-1 beta, anti; Transforming Growth Factor-B1, anti **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** 1007D; **Duration:** 10 Days;
ALZET Comments: Dose (IL-1b (83µg/ml); IL-6 (83µg/ml); IL-10 (166µg/ml); IL-12 (83µg/ml); IL-17 (125µg/ml); IL-23 (166µg/ml); IFNg (83µg/ml); TNFa (166µg/ml); anti-TGF-b1 (166µg/ml); anti-IL-1b (150µg/ml)); Controls received mp w/ vehicle; animal info (Eight- to twelve-week-old female C57BL/6 mice); Immunology (“evaluate the suitability of osmotic pumps as a model for biofilms in implant associated infections, we implanted osmotic pumps pre-colonized with bioluminescent Staphylococcus aureus”);

Q8197: P. F. Fuchs, *et al.* Fibrin fragment E potentiates TGF-β-induced myofibroblast activation and recruitment. *bioRxiv* 2019;

Agents: Fibrin Degradation Product Fragment E **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 2 weeks;
ALZET Comments: Dose (200ng/µl); 0.1% Saline used; Controls received mp w/ vehicle; animal info (10-week-old, female C57Bl/6 (Crl) mice); Fibrin Degradation Product Fragment E aka FnE; immunology;

Q8181: P. Chandra, *et al.* Fatty acid oxidation impairs macrophage effector functions that control Mycobacterium tuberculosis. *Not Stated* 2019;

Agents: Temozolomide **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 2002; **Duration:** 2 weeks;
ALZET Comments: Dose (16.8 mg/kg/day or 50 mg/kg/day); Controls received mp w/ vehicle; animal info (8-12 week old C57BL/6 mice); half-life (less than 1 hour); Temozolomide aka TMZ; immunology;

Q7839: X. Wan, *et al.* Pancreatic islets communicate with lymphoid tissues via exocytosis of insulin peptides. *Nature* 2018;560(7716):107-111

Agents: S961 **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** 2001; **Duration:** 7 days;



ALZET Comments: Dose (20 nMol/week); Controls received mp w/ vehicle; animal info (3 weeks, female, NOD); S961 is an insulin receptor antagonist; immunology;

Q7929: S. B. Vasamsetti, *et al.* Sympathetic Neuronal Activation Triggers Myeloid Progenitor Proliferation and Differentiation. *Immunity* 2018;49(1):93-106 e7

Agents: ICI-118,551 hydrochloride; Toxin, Diphtheria; reserpine; captopril; norepinephrine **Vehicle:** PBS; **Route:** Intrasplenic; **Species:** Mice; **Pump:** 1002; **Duration:** 1, 2, 3 weeks;

ALZET Comments: "Dose ((ICI-118,551 12 mg/kg/hr), (Diphtheria Toxin 5 mg/kg/day), (reserpine 5mg/kg/day), (captopril 6mg/kg/day), (norepinephrine 5mg/kg/day)); Controls received mp w/ vehicle; animal info (10-12 weeks, Apoe(-/-)); comparison of intrasplenic injection vs mp; ICI-118,551 hydrochloride is a selective antagonist of the beta2 adrenergic receptor. angiotensin converting enzyme (ACE) inhibitor. Reserpine blocks the uptake of catecholamines into synaptic vesicles; Reserpine is an enzyme inhibitor (vesicular monoamine transporter 2); immunology; Diphtheria toxin used to deplete TH+ leukocytes. Splenic nerves were depleted by intrasplenic DT using mp for 7 days; Therapeutic indication (ICI-118,551 reduced splenic GMP proliferation and inflammatory myeloid cell generation); "

Q7858: T. F. Rowley, *et al.* Engineered hexavalent Fc proteins with enhanced Fc-gamma receptor avidity provide insights into immune-complex interactions. *Communications Biology* 2018;1(146)

Agents: Antibody, anti-CD41 **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 7 days;

ALZET Comments: Dose (82.5 µg/ml at 0.5 µl/h); Controls received mp w/ vehicle; animal info (6 weeks, male, BALB/c); immunology; minipumps used to induce chronic ITP (immune thrombocytic purpura);

Q7231: I. Michailidou, *et al.* Systemic inhibition of the membrane attack complex impedes neuroinflammation in chronic relapsing experimental autoimmune encephalomyelitis. *Acta Neuropathologica Communications* 2018;6(1):36

Agents: Oligonucleotide, antisense **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 14 days;

ALZET Comments: Dose (5 mg/kg); animal info (Male 7 to 8-week-old Biozzi AB/H mice, 26.93 ± 0.33 g); C6 antisense aka c6 Locked nucleic acid oligonucleotide; antisense (C6); immunology;

Q7769: F. Kurosaki, *et al.* AAV6-Mediated IL-10 Expression in the Lung Ameliorates Bleomycin-Induced Pulmonary Fibrosis in Mice. *Hum Gene Ther* 2018;29(11):1242-1251

Agents: bleomycin **Vehicle:** Saline, sterile; **Route:** SC; **Species:** Mice; **Pump:** 2001; **Duration:** 7 days;

ALZET Comments: Dose (1 µL/h of 125 mg/kg bleomycin); Controls received no vector and mp w/ vehicle; animal info (10-12 weeks, male, C57BL6/J, 25-30g); immunology;

Q7756: C. A. Huppe, *et al.* A sphingosine-1-phosphate receptor 1 agonist inhibits tertiary lymphoid tissue reactivation and hypersensitivity in the lung. *Mucosal Immunol* 2018;11(1):112-119

Agents: RP-001 **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 3, 5 days;

ALZET Comments: Dose (1 mg/kg/day); Controls received mp w/ vehicle; animal info (8 weeks, female, C57Bl/6); RP-001 is a S1P1 agonist; immunology; Therapeutic indication (interferes with TLT reactivation and alleviates critical pathognomonic features of an experimental hypersensitivity pneumonitis-like disease);

Q7828: H. Haselmann, *et al.* Human Autoantibodies against the AMPA Receptor Subunit GluA2 Induce Receptor Reorganization and Memory Dysfunction. *Neuron* 2018;100(1):91-105 e9

Agents: Immunoglobulin G, human; antibody, human IgG **Vehicle:** Saline; **Route:** CSF/CNS (lateral ventricle); **Species:** Mice; **Pump:** 1002; **Duration:** 14 days;

ALZET Comments: Dose (10mg/ml at 0.25 µl/h); Controls received mp w/ vehicle; animal info (male, C57BL/6J); behavioral testing (Novel object recognition, locomotor activity box, elevated plus maze, black-and-white test); comparison of stereotactic microinjection vs mp; a-GluA2 IgG are autoantibodies against only the GluA2 subunit of the AMPAR; Brain coordinates (0.2 mm posterior and ± 1.00 mm lateral from bregma, depth 2.2 mm); bilateral cannula used (PlasticsOne, model 3280PD-2.0/SP); neurodegenerative (Autoimmune encephalitis); immunology; purified IgG fraction and antibody sources described on page e2 of paper.;



Q7809: J. R. Ferdinand, *et al.* Cleavage of TL1A Differentially Regulates Its Effects on Innate and Adaptive Immune Cells. *J Immunol* 2018;200(4):1360-1369

Agents: TL1A, recombinant **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** 2006; **Duration:** 6 weeks;
ALZET Comments: Dose (500pg/day or 500 ng/day); Controls received mp w/ vehicle; animal info (8-10 or 12 weeks, C57NL/6-Jax); TL1A (TNFSF15) is a TNF superfamily cytokine; immunology; 500ng/day using 12-week-old mice listed on p.1361. 500pg/day using 8-10-week-old mice listed on p.1366.;

Q5720: J. Yun, *et al.* The HMGB1-CXCL12 Complex Promotes Inflammatory Cell Infiltration in Uveitogenic T Cell-Induced Chronic Experimental Autoimmune Uveitis. *Front Immunol* 2017;8(142)

Agents: AMD3100 **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** 2002; **Duration:** 14 days;
ALZET Comments: Controls received mp w/ vehicle or had sham surgery; animal info (female C57BL6J, 8-10 weeks old); immunology; Dose (357 ug/day);

Q5715: Y. Xu, *et al.* Long-term nicotine exposure dampens LPS-induced nerve-mediated airway hyperreactivity in murine airways. *American Journal of Physiology Lung Cellular and Molecular Physiology* 2017;313(3):L516-L523

Agents: Nicotine tartrate **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 28 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (female, BALB/c, 10 weeks old); post op. care (clips were removed 7-10 days post operation); immunology; "Subcutaneous osmotic pumps containing nicotine tartrate salt produces a stable plasma nicotine concentration that has long been utilized in the field of neuroscience for the study of chronic nicotine effects" pg L517; Used Reflex wound clips (2-3 per mouse); Dose (24 mg/kg/day); Used Reflex clips; wound clips removed 7-10 days postop;

Q5920: Z. Wu, *et al.* Bindarit reduces the incidence of acute aortic dissection complicated lung injury via modulating NF-kappaB pathway. *Experimental and Therapeutic Medicine* 2017;14(3):2613-2618

Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Rat; **Pump:** Not Stated; **Duration:** 4 weeks;
ALZET Comments: animal info (male, Sprague Dawley, 3 weeks old); cardiovascular; immunology; peptides; Dose (1 ug/kg/min);

Q5906: C. von Loeffelholz, *et al.* The human longevity gene homolog INDY and interleukin-6 interact in hepatic lipid metabolism. *Hepatology* 2017;66(2):616-630

Agents: Interleukin-6, human **Vehicle:** NaCl; BSA; **Route:** Not Stated; **Species:** Mice; **Pump:** Not Stated; **Duration:** 14 days;
ALZET Comments: animal info (male, mINDY KO); 0.1% BSA used; immunology;

Q5904: A. Vinue, *et al.* The GLP-1 analogue lixisenatide decreases atherosclerosis in insulin-resistant mice by modulating macrophage phenotype. *Diabetologia* 2017;60(9):1801-1812

Agents: Lixisenatide; liraglutide **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 1 month;
ALZET Comments: Controls received mp w/ vehicle; Controls received mp w/ vehicle; cardiovascular; immunology; peptides; diabetes; Bp measured using tail cuff; Dose (liraglutide 400 ug/kg/day; lixisenatide 10 ug/kg/day);

Q5691: K. W. Tian, *et al.* Role of C16, angiopoietin-1 and regeneration gene protein 2 in attenuating inflammation in an experimental rat model of autoimmune encephalomyelitis. *J Anat* 2017;230(1):30-46

Agents: Reg-2 **Vehicle:** Saline; PBS; **Route:** CSF/CNS; **Species:** Rat; **Pump:** 2002; **Duration:** 14 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (male, Lewis, adult, 250-300g); ALZET brain infusion kit used; post op. care (rats placed in temperature and humidity controlled chambers overnight for recovery; Penicillin IM 2500IU); immunology; immunology; Pumps primed overnight in room temperature saline;

Q5679: K. Su, *et al.* FTY720 Attenuates Angiotensin II-Induced Podocyte Damage via Inhibiting Inflammatory Cytokines. *Mediators Inflamm* 2017;2017(3701385)

Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** sc; **Species:** Rat; **Pump:** 2002; 2004; **Duration:** Not Stated;
ALZET Comments: animal info (male, SPF Wistar, 160g); cardiovascular; immunology; peptides; Dose (400 ng/kg/min);



Q5890: T. Sakaue, *et al.* Perivascular Adipose Tissue Angiotensin II Type 1 Receptor Promotes Vascular Inflammation and Aneurysm Formation. *Hypertension* 2017;70(4):780-789

Agents: Angiotensin II **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 28 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (ApoE 12-14 weeks old); cardiovascular; immunology; peptides; BP measured using tail cuff; Dose (1000 ng/kg/min);

Q6235: M. Pauthner, *et al.* Elicitation of Robust Tier 2 Neutralizing Antibody Responses in Nonhuman Primates by HIV Envelope Trimer Immunization Using Optimized Approaches. *Immunity* 2017;46(6):1073-1088 e6

Agents: Antigen, BG505.v5.2 SOSIP **Vehicle:** ISCOMATRIX adjuvant; **Route:** SC; **Species:** Monkey (macaque); **Pump:** 2002; **Duration:** 14 days;

ALZET Comments: Dose (50 ug); ISCOMATRIX adjuvant composed of cholesterol, phospholipid, and saponin in sterile PBS; animal info (3-4 year old Indian-origin rhesus macaques); Immunology (antigen immunization); "Pump delivery resulted in significantly higher nAb titers than conventional immunization, as well as shifted kinetics, after both the second and third immunizations (Figure 4G)." pg. 1081; Therapeutic indication (HIV);

Q5822: M. Nakano, *et al.* NG2 glial cells regulate neuroimmunological responses to maintain neuronal function and survival. *Sci Rep* 2017;7(42041)

Agents: Ganciclovir **Vehicle:** Not Stated; **Route:** CSF/CNS (left lateral ventricle); **Species:** Rat; **Pump:** SMP-300, iPRECIO; **Duration:** Not Stated;

ALZET Comments: Controls animals were sham operated or infused with vehicle; animal info (NG2-HSVtk, 12-35 weeks old); ALZET brain infusion kit 1 used; immunology; Therapeutic indication (Neuroimmunology, neuroinflammation, neural development); Dose (0.01, 0.1, 0.5, 1.0, and 10 mg/ml);

Q5549: B. B. Mishra, *et al.* Nitric oxide prevents a pathogen-permissive granulocytic inflammation during tuberculosis. *Nat Microbiol* 2017;2(17072)

Agents: Interleukin-1 receptor antagonist; 12/15-LOX inhibitors; SCH527123; 12-HETE **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 4 weeks;

ALZET Comments: Dose (IL-1Rn at 25 mg/kg; 12-HETE at 50 µg/kg; SCH527123 at 5 mg/kg); animal info (Nos2^{-/-} mice); SCH527123 is a CXCR1/2 antagonist; immunology;

Q6216: S. Liu, *et al.* Efficiency and Safety of CRAC Inhibitors in Human Rheumatoid Arthritis Xenograft Models. *J Immunol* 2017;199(5):1584-1595

Agents: Antibody (hCRACM1-IgG); YM-58483 **Vehicle:** Saline; Intralipose; **Route:** SC; **Species:** Mice; **Pump:** 1004; **Duration:** 28 days;

ALZET Comments: hCRACM1-IgG Dose (1 or 10 mg/kg), YM058483 Dose (1.5mg/kg); YM-58483 was mixed with 10% Intralipose, which is an i.v. lipid emulsion containing 10% soybean oil, 1.2% egg yolk phospholipids, and 2.2% glycerin; Controls received mp w/ vehicle; hCRACM1-IgG is a neutralizing monoclonal antibody targeting human CRACM1; YM-58483 is a small molecular CRAC blocker; Immunology (transplant);

Q5952: A. Dohler, *et al.* RelB(+) Steady-State Migratory Dendritic Cells Control the Peripheral Pool of the Natural Foxp3(+) Regulatory T Cells. *Front Immunol* 2017;8(726)

Agents: OVA (327-339) **Vehicle:** PBS; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** Not Stated;

ALZET Comments: Dose (10 ug/day); Controls received mp w/ vehicle; animal info (5-12 week old CD11cCRE mice); immunology; OVA-loaded osmotic minipumps provided a constant source of soluble peripheral self-antigen

Q6388: R. Dill, *et al.* Role of Prolactin in Promotion of Immune Cell Migration into the Mammary Gland. *J Mammary Gland Biol Neoplasia* 2017;22(1):13-26

Agents: Prolactin **Vehicle:** PBS, Dulbecco's; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 28 days;

ALZET Comments: Dose (2.4 µg/day); Controls received mp w/ vehicle; animal info (Eight week-old C57BL6/J female mice); immunology;



Q6399: Y. T. Chen, *et al.* Low-Level MHC Class II Expression Leads to Suboptimal Th Cell Response, Increased Autoaggression, and Heightened Cytokine Inducibility. *J Immunol* 2017;198(5):1928-1943

Agents: Uridine, 5'-ethynyl-2'-deoxy **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 2001; **Duration:** 7 days;
ALZET Comments: immunology;

Q5944: T. Alissafi, *et al.* Tregs restrain dendritic cell autophagy to ameliorate autoimmunity. *J Clin Invest* 2017;127(7):2789-2804

Agents: myelin oligodendrocyte glycoprotein (35-55) **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 14 days;

ALZET Comments: animal info (female, 8-10 weeks); immunology; Therapeutic indication (Autoimmune disease); Dose (10 ug/day);