



## References on the Administration of Agents to Immunodeficient Mice Using ALZET® Osmotic Pumps

### 1. NOG Mice

**Q5587:** Y. Fang, *et al.* The adhesion and migration of microglia to beta-amyloid (Abeta) is decreased with aging and inhibited by Nogo/NgR pathway. *J Neuroinflammation* 2018;15(1):210

**ALZET Comments:** NEP1-40; PBS, DMSO; CSF/CNS (lateral ventricle); Mice (transgenic); 2004; 2 months; Dose (500 µM); Dose (500 µM); 2.5% DMSO used; animal info (6 month old APP/PS1 transgenic mice); pumps replaced after 28 days; NEP1-40 is a competitive antagonist of Nogo/NgR pathway; ALZET brain infusion kit 2 used; neurodegenerative (Alzheimer's);.

**Q5719:** X. Yan, *et al.* YM155 Down-Regulates Survivin and Induces P53 Up-Regulated Modulator of Apoptosis (PUMA)-Dependent in Oral Squamous Cell Carcinoma Cells. *Medical Science Monitor* 2017;23(1963-1972)

**ALZET Comments:** YM155; Saline; SC; Mice (SCID); 1003D; 2 weeks; Controls received mp w/ vehicle; animal info (female, SCID, 4-6 weeks old); cancer (oral squamous cell carcinoma, SCC9); xenograft model; Pumps infused for 3 days per week for two weeks; Therapeutic indication (oral squamous cell carcinoma); Dose (50 mg/kg);.

**Q5357:** F. Muller, *et al.* Paclitaxel synergizes with exposure time adjusted CD22-targeting immunotoxins against B-cell malignancies. *ONCOTARGET* 2017;1-12

**ALZET Comments:** HA22- PE24 recombinant immunotoxin; Citrate buffer; IP; Mice; 1007D; 7 days; Controls received mp w/ vehicle; animal info (6-8-week-old NSG mice); JeKo-1 xenograft model; Citrate buffer: 32 mM citrate, 0.65% Tween80, 5 mM EDTA; comparison of 3 times IV bolus injections vs mp; cancer (Mantle Cell Lymphoma); half-life: 15 minutes in mice (p. 4); To enable continuous drug delivery in vivo, the rIT-formulation buffer was optimized to ensure protein stability. Stability for 7-days with citrate buffer verified using WST-8 cell proliferation assay; "Continuous infusion substantially increased efficacy of LR compared to bolus dose administration." pg 4; "a well-tolerated total amount of 84 µg LR given by continuous infusion is substantially more active than the 120 µg LR given as three bolus doses QOD." (P. 5); Because rITs have a short plasma half-life in mice and men, blood levels fall quickly after a bolus dose; Dose (1 mg/ml); Immunotoxin plasma concentration was on average 45 ng/ml, correlating with an AUC of 350 ng x day/mlPlasma. This steady state plasma concentration was higher than the IC50 of any of the MCL cell lines tested.

**Q6071:** H. W. Lei, *et al.* Neuropsychiatric involvement in lupus is associated with the Nogo-a/NgR1 pathway. *J Neuroimmunol* 2017;311(22-28)

**ALZET Comments:** NEP1-40; PBS, DMSO; CSF/CNS (right lateral ventricle); Mice; 2004; 8 weeks; Dose (500 µM); 2.5% DMSO used; Controls received mp w/ vehicle; animal info (Female MRL/lpr); behavioral testing (Morris water maze); pumps replaced after 28 days and connected to the same cannula; NEP1-40 aka Nogo-66(1-40) antagonist peptide; ALZET brain infusion kit II used; Brain coordinates (0.6 mm posterior and 1.2 mm lateral to bregma and 2.0 mm under the pial surface);.

**Q6289:** P. E. Labeyrie, *et al.* Vascular Tissue-Type Plasminogen Activator Promotes Intracranial Aneurysm Formation. *Stroke* 2017;48(9):2574-2582

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 14 days; Dose (37ng/ min); animal info (tPA-/-, plasminogen activator inhibitor-1 knockout mice, and their wild-type (WT) littermates all on a C57BL/6J background); post op. care (subcutaneous injection of 100 µL of buprenorphine solution at 0.02mg/mL, 0.1 mg/kg body weight per animal); cardiovascular;.

**Q6018:** J. Cornillie, *et al.* In Vivo Antitumoral Efficacy of PhAc-ALGP-Doxorubicin, an Enzyme-Activated Doxorubicin Prodrug, in Patient-Derived Soft Tissue Sarcoma Xenograft Models. *Mol Cancer Ther* 2017;16(8):1566-1575

**ALZET Comments:** Doxorubicin hydrochloride; PBS; IP; Mice; 1007D; 7 days; Controls received mp w/ vehicle; cancer (Sarcoma); Therapeutic indication (Cancer; soft tissue sarcoma; xenograft model);.

**Q5111:** W. Zhang, *et al.* Targeting of Survivin Pathways by YM155 Inhibits Cell Death and Invasion in Oral Squamous Cell Carcinoma Cells. *Cell Physiol Biochem* 2016;38(6):2426-37



**ALZET Comments:** YM155; SC; Mice (nude); 1007D; 7 days; Controls received mp w/ vehicle; animal info (female, nude, 5 weeks old); cancer (Oral squamous cell carcinoma SCC9); Dose (5 mg/kg/day); xenograph model;.

**Q5107:** M. Zenitani, *et al.* C-type natriuretic peptide in combination with sildenafil attenuates proliferation of rhabdomyosarcoma cells. *Cancer Med* 2016;5(5):795-805

**ALZET Comments:** C-type natriuretic peptide; SC; Mice (nude); 1003D; 3 days; 4 weeks; Controls received mp w/ vehicle; animal info (male, C57BL6 or BALB/c nu/ny, 5 weeks old); functionality of mp verified by plasma levels (figure 4B); cancer (rhabdomyosarcoma RD-GC-B); xenograft model; Dose (2.5 ug/kg/min); Resultant plasma level (~600 pmol/L; see figure 4B);.

**Q5078:** Y. Uchi, *et al.* CXCL12 expression promotes esophageal squamous cell carcinoma proliferation and worsens the prognosis. *BMC Cancer* 2016;16(514)

**ALZET Comments:** AMD3100; SC; Mice (nude); 2001; 14 days; Controls received mp w/ 0.1% BSA; animal info (female, BALB/c nude, 6 weeks old); pumps replaced every week; cancer (Esophageal squamous cell carcinoma TE4); xenograft model;.

**Q4892:** T. R. Tuttle, *et al.* The cyclic GMP/protein kinase G pathway as a therapeutic target in head and neck squamous cell carcinoma. *Cancer Letters* 2016;370(279-285)

**ALZET Comments:** Tadalafil; PEG 400; SC; Mice; 1004; 4 weeks; Controls received mp w/ vehicle; animal info (female, nu/nu athymic, 8 weeks old); cancer (head and neck; CAL 27); stress/adverse reaction: (see pg. 283) "There were no observed changes in weight or behavior of the treated mice"; xenograph study; Dose (1 mg/kg/day);.

**Q6623:** T. Morishita, *et al.* The photosensitizer verteporfin has light-independent antileukemic activity for Ph-positive acute lymphoblastic leukemia and synergistically works with dasatinib. *ONCOTARGET* 2016;7(35):56241-56252

**ALZET Comments:** Verteporfin; SC; Mice; 7 days; Dose (140 mg/kg/day); Controls received mp w/ vehicle; animal info (NOG mice); Resultant plasma level (654 nM); cancer (leukemia);.

**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

**ALZET Comments:** Fenofibrate; Glucose, 2-Deoxy; Saline; SC; Mice; 62 Days; 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);.

**Q5344:** U. Eskiocak, *et al.* Synergistic effects of ion transporter and MAP kinase pathway inhibitors in melanoma. *Nat Commun* 2016;7(12336)

**ALZET Comments:** Digoxin; Promethylcellulose, Tween80, DMSO; SC; mice; Controls received mp w/ vehicle; animal info (NSG mice); 0.5% used Promethylcellulose, 0.2% Tween80 used, 5% DMSO; cancer (xenograft models); dose-response (pg. 14); Dose (10 mg/kg/day);.

**Q5313:** M. Cadamuro, *et al.* Low-Dose Paclitaxel Reduces S100A4 Nuclear Import to Inhibit Invasion and Hematogenous Metastasis of Cholangiocarcinoma. *Cancer Res* 2016;76(16):4775-84

**ALZET Comments:** Paclitaxel; Cremophor EL, Ethanol; IP; Mice (SCID); 1004; 2 weeks; Controls received mp w/ vehicle; animal info (SCID mice 6–8 weeks old); functionality of mp verified by bioluminescence imaging to check metastatic spread; 50% Cremophor, 50% ethanol used; cancer (Cholangiocarcinoma); Xenograft model; Dose (2.6 mg/kg/d);.

**Q5317:** D. C. Borchering, *et al.* Expression and therapeutic targeting of dopamine receptor-1 (D1R) in breast cancer. *Oncogene* 2016;35(24):3103-13

**ALZET Comments:** Fenoldopam; PBS; SC; mice; 1004; 1 week, 3 weeks; Controls received mp w/ vehicle; animal info (Eight-week-old female athymic nu/nu mice; inoculated with MDA-MB-231 cells or SUM159 cells); functionality of mp



verified by measurement of tumor volumes; cancer (breast cancer); dose-response (pg. 3109); Xenograft models; Dose (400 ng/kg/min or 133 ng/kg/min);.

**Q5319:** S. M. Bhagat, *et al.* Erasure of fear memories is prevented by Nogo Receptor 1 in adulthood. *Mol Psychiatry* 2016;21(9):1281-9

**ALZET Comments:** Nogo Receptor (310) ecto-Fc; PBS; CSF/CNS (right lateral ventricle); mice; 1004; 28 days; Controls received mp w/ vehicle; animal info (Adult male C57BL6/J mice (4–6 mo old)); functionality of mp verified by behavioral endpoints; functionality of mp verified by behavioral endpoints; behavioral testing (fear conditioning, extinction training, extinction retrieval, fear reacquisition, cue selectivity); cyanoacrylate adhesive; NgR(310)ecto-Fc aka Nogo Receptor (310) ecto-Fc; Dose (0.2 mg); Resultant CNS protein levels;.

**Q5320:** M. Benlloch, *et al.* Pterostilbene Decreases the Antioxidant Defenses of Aggressive Cancer Cells In Vivo: A Physiological Glucocorticoids- and Nrf2-Dependent Mechanism. *Antioxid Redox Signal* 2016;24(17):974-90

**ALZET Comments:** Pterostilbene, Corticosterone; DMSO, Ethanol; PEG400; IV (jugular); mice; 35 days; Controls received mp w/ vehicle; animal info Female nu/nu nude mice (6–8 weeks); Vehicle solution DMSO and ethanol at 2:1 ratio; functionality of mp verified by plasma levels, pg 979; functionality of mp verified by plasma levels, pg 979; Pterostilbene is a natural dimethoxylated analog of resveratrol; Mice xenograft models; Dose (50 mg/ml Pter; 0.3 ug/hr corticosterone); Resultant plasma level (pg. 979);.

**Q5321:** D. M. Beauvais, *et al.* Syndecan-1 (CD138) Suppresses Apoptosis in Multiple Myeloma by Activating IGF1 Receptor: Prevention by Synstatin/IGF1R Inhibits Tumor Growth. *Cancer Res* 2016;76(17):4981-93

**ALZET Comments:** Synstatin(IGF1R), Synstatin(IGF1R-T); PBS; SC; Mice (NUDE); 2004; 4 weeks; Controls received mp w/ vehicle; animal info (6- to 8-week-old female, athymic Foxn1nu outbred nude mice); functionality of mp verified by tumor volume measurements; cancer (Multiple Myeloma); dose-response (pg. 4989-4990); Xenograft model; Dose (3.6 mg/kg/d); Resultant plasma level (30 umol/L); Interesting (Evidence of tumor elimination);.

## 2. NSG Mice

**Q6842:** T. G. Schips, *et al.* Thrombospondin-3 augments injury-induced cardiomyopathy by intracellular integrin inhibition and sarcolemmal instability. *Nat Commun* 2019;10(1):76

**ALZET Comments:** Isoproterenol; PBS; Mice (tr; 2 weeks; Dose (60 mg/kg/day)); Controls received mp w/ vehicle; animal info (Eight to eleven week-old Cardiomyocyte-specific transgenic mice); post op. care (buprenex, 0.05 mg/ml, SC); Therapeutic indication (cardiomyopathy);.

**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);.

**Q6902:** D. van Keulen, *et al.* Inflammatory cytokine oncostatin M induces endothelial activation in macro- and microvascular endothelial cells and in APOE\*3Leiden.CETP mice. *PLoS One* 2018;13(10):e0204911

**ALZET Comments:** Oncostatin M, murine; PBS; Mouse serum; SC; Mice (transgenic); 1004; Dose (1, 3 or 10 µg/kg/day); 1% mouse serum used; Controls received mp w/ vehicle; animal info (15-22 week old female APOE\_3Leiden.CETP transgenic mice);.



**Q7257:** X. M. Qi, *et al.* Intraventricular infusion of clusterin ameliorated cognition and pathology in Tg6799 model of Alzheimer's disease. *BMC Neurosci* 2018;19(1):2

**ALZET Comments:** Apolipoprotein J; DMSO; CSF/CNS (Lateral ventricle); Mice; 2002; 2 weeks; Dose (20 µg/200 µl); Dose (20 µg/200 µl); animal info (8-month transgenic mouse model Tg6799); behavioral testing (water-maze testing); Apolipoprotein J aka Clusterin; ALZET brain infusion kit 3 used; neurodegenerative (Alzheimer's);.

**Q6920:** J. R. Lin, *et al.* Suppression of Endothelial-to-Mesenchymal Transition by SIRT (Sirtuin) 3 Alleviated the Development of Hypertensive Renal Injury. *Hypertension* 2018;72(2):350-360

**ALZET Comments:** Angiotensin II; Saline; SC; Mice (knockout); Mice (transgenic); 4 weeks; Dose (1000 ng/kg/min); Controls received mp w/ vehicle; animal info (Male WT (wild type), SIRT3<sup>-/-</sup>, flox-flox N-Tg (nontransgenic), and SIRT3-TgEC mice at 8 weeks of age); cardiovascular;.

**Q7075:** B. Li, *et al.* Epigenetic Regulation of CXCL12 Plays a Critical Role in Mediating Tumor Progression and the Immune Response In Osteosarcoma. *Cancer Res* 2018;78(14):3938-3953

**ALZET Comments:** AMD3100; AMG487; IP; Mice (nude); animal info (Five-week-old female immunocompetent BALB/c mice and immunodeficient NOD-SCID IL2r<sup>gnull</sup> (NSG) mice); cancer (osteosarcoma);.

**Q6925:** S. Kalin, *et al.* CNS myeloid cells critically regulate heat hyperalgesia. *J Clin Invest* 2018;128(7):2774-2786

**ALZET Comments:** Ganciclovir; CSF/CNS (lateral ventricle); Mice (transgenic); 2002; 4 weeks; animal info (150- to 200-day-old adult male hemizygous CD11b-<sup>HSVTK</sup> (TK) mice (4) or their transgene-negative littermates); ALZET brain infusion kit used;.

**Q5587:** Y. Fang, *et al.* The adhesion and migration of microglia to beta-amyloid (Aβ) is decreased with aging and inhibited by Nogo/NgR pathway. *J Neuroinflammation* 2018;15(1):210

**ALZET Comments:** NEP1-40; PBS, DMSO; CSF/CNS (lateral ventricle); Mice (transgenic); 2004; 2 months; Dose (500 µM); Dose (500 µM); 2.5% DMSO used; animal info (6 month old APP/PS1 transgenic mice); pumps replaced after 28 days; NEP1-40 is a competitive antagonist of Nogo/NgR pathway; ALZET brain infusion kit 2 used; neurodegenerative (Alzheimer's);.

**Q5802:** C. E. Evans, *et al.* Selective reduction of APP-BACE1 activity improves memory via NMDA-NR2B receptor-mediated mechanisms in aged PDAPP mice. *Neurobiol Aging* 2018;75(136-149)

**ALZET Comments:** 2B3; Immunoglobulin G1K; PBS; CSF/CNS (left lateral ventricle); Mice (transgenic); 1002; 14 days; Dose (1.2 mg/mL); Controls received mp w/ vehicle; animal info (Male PDAPP and WT mice with human APP V71F transgene); behavioral testing (object-novelty and OiP memory); 2B3 is a monoclonal antibody; IgG1k is a monoclonal antibody; Brain coordinates (0.5mm posterior and 1.2mm lateral to Bregma.);.

**Q6335:** H. Zhou, *et al.* Combined inhibition of beta-catenin and Bcr-Abl synergistically targets tyrosine kinase inhibitor-resistant blast crisis chronic myeloid leukemia blasts and progenitors in vitro and in vivo. *Leukemia* 2017;31(10):2065-2074

**ALZET Comments:** PRI-724; Mice; 1004; 4 weeks; Dose (30 mg/kg per day); animal info (8-week-old female NSG mice); cancer (myeloid leukemia);.

**Q6283:** C. Yao, *et al.* Breast cancer-associated gene 3 interacts with Rac1 and augments NF-kappaB signaling in vitro, but has no effect on RANKL-induced bone resorption in vivo. *Int J Mol Med* 2017;40(4):1067-1077

**ALZET Comments:** RANKL; PBS; SC; Mice; 1002; 14 days; Dose (0.4 mg/kg/day); Controls received mp w/ vehicle; animal info (BCA3 transgenic mice); Receptor activator of nuclear factor κB ligand aka RANKL;.

**Q6277:** W. Xu, *et al.* The Efficacy and Pharmacological Mechanism of Zn7MT3 to Protect against Alzheimer's Disease. *Sci Rep* 2017;7(1):13763

**ALZET Comments:** Zn7MT3; PBS; CSF/CNS (lateral ventricle); Mice; 2006; 6 weeks; Dose (50 µg/day/mouse); Controls received mp w/ vehicle; animal info (APP<sup>swE</sup>/PSEN1<sup>dE9</sup> (APP/PS1) double transgenic mice, approx. 5 months old, on a



C57BL/6 background); behavioral testing (Morris water maze test, step-down type passive avoidance test); ALZET brain infusion kit 3 used; Brain coordinates (lateral 1.0 mm, posterior 0.4 mm to bregma as the zero point); neurodegenerative (Alzheimer's disease);

**Q5923:** Q. Xie, *et al.* Transcriptional regulation of the Nkx3.1 gene in prostate luminal stem cell specification and cancer initiation via its 3' genomic region. *J Biol Chem* 2017;292(33):13521-13530

**ALZET Comments:** Testosterone; Ethanol, PEG-400; SC; mice (transgenic); 4 weeks; animal info (CK18-CreERT2 transgenic, Nkx3.1, C57BL/6N); cancer (prostate); replacement therapy (testosterone infusion); Dose (1.875 ug/h);

**Q6518:** K. Tonegawa, *et al.* Caveolae-specific activation loop between CaMKII and L-type Ca(2+) channel aggravates cardiac hypertrophy in alpha1-adrenergic stimulation. *Am J Physiol Heart Circ Physiol* 2017;312(3):H501-H514

**ALZET Comments:** Phenylephrine; SC; Mice (transgenic); Dose (50 mg/kg/day); animal info (2 month old double-transgenic and tTA transgenic mice); cardiovascular.

**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 (beta-catenin/CBP); Therapeutic indication (hepatitis C virus-induced liver fibrosis);

**Q5738:** L. E. Sebel, *et al.* Haloperidol Selectively Remodels Striatal Indirect Pathway Circuits. *Neuropsychopharmacology* 2017;42(4):963-973

**ALZET Comments:** Haloperidol-Hcl; Saline; SC; Mice; 2004; 14 days; Controls received mp w/ vehicle; animal info (hemizygous bacterial artificial chromosome (BAC) transgenic mice (p28-p38) expressing eGFP under either *Drd1a* or *Drd2* control); Therapeutic indication (Schizophrenia); Dose (0.25 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);

**Q6196:** L. Naia, *et al.* Comparative Mitochondrial-Based Protective Effects of Resveratrol and Nicotinamide in Huntington's Disease Models. *Mol Neurobiol* 2017;54(7):5385-5399

**ALZET Comments:** Resveratrol; Nicotinamide; Cyclodextrin, 2-hydroxypropyl-b; Saline; SC; Mice; 28 days; Dose (resveratrol 1 mg/kg/day; nicotinamide 250 mg/kg/day); Controls received mp w/ vehicle; animal info (9-month-old YAC128 transgenic mice and age-matched WT controls); neurodegenerative (Huntington's Disease);

**Q5357:** F. Muller, *et al.* Paclitaxel synergizes with exposure time adjusted CD22-targeting immunotoxins against B-cell malignancies. *ONCOTARGET* 2017;1-12

**ALZET Comments:** HA22- PE24 recombinant immunotoxin; Citrate buffer; IP; Mice; 1007D; 7 days; Controls received mp w/ vehicle; animal info (6-8-week-old NSG mice); JeKo-1 xenograft model; Citrate buffer: 32 mM citrate, 0.65% Tween80, 5 mM EDTA; comparison of 3 times IV bolus injections vs mp; cancer (Mantle Cell Lymphoma); half-life: 15 minutes in mice (p. 4); To enable continuous drug delivery in vivo, the rIT-formulation buffer was optimized to ensure protein stability. Stability for 7-days with citrate buffer verified using WST-8 cell proliferation assay; "Continuous infusion substantially increased efficacy of LR compared to bolus dose administration." pg 4; "a well-tolerated total amount of 84 µg LR given by continuous infusion is substantially more active than the 120 µg LR given as three bolus doses QOD." (P. 5); Because rITs have a short plasma half-life in mice and men, blood levels fall quickly after a bolus dose; Dose (1 mg/ml); Immunotoxin plasma concentration was on average 45 ng/ml, correlating with an AUC of 350 ng x day/ml Plasma. This steady state plasma concentration was higher than the IC50 of any of the MCL cell lines tested.

**Q6601:** A. L. McGregor, *et al.* Varenicline improves motor and cognitive deficits and decreases depressive-like behaviour in late-stage YAC128 mice. *Neuropharmacology* 2017;116(233-246





**ALZET Comments:** Varenicline; SC; Mice (transgenic); 28 days; Dose (5 mg/kg/day); animal info (15-month-old wildtype and transgenic YAC128 mice); behavioral testing (rotarod, T-maze, novel object recognition, novelty suppressed feeding, forced swim tests);.

**Q6210:** A. Maeda, *et al.* Identification of human IgG1 variant with enhanced FcRn binding and without increased binding to rheumatoid factor autoantibody. *MAbs* 2017;9(5):844-853

**ALZET Comments:** Interleukin-6 receptor, human soluble; SC; Mice; Dose (92.8 mg/mL); animal info (hFcRn transgenic mice);.

**Q6588:** M. M. Ma, *et al.* TMEM16A Contributes to Endothelial Dysfunction by Facilitating Nox2 NADPH Oxidase-Derived Reactive Oxygen Species Generation in Hypertension. *Hypertension* 2017;69(5):892-901

**ALZET Comments:** Angiotensin II; Mice (knockout); Mice (transgenic); 4 weeks; animal info (8 week old TMEM16A endothelial-specific knockout and transgenic mice); cardiovascular;.

**Q6296:** Kim J, *et al.* Targeting aldehyde dehydrogenase activity in head and neck squamous cell carcinoma with a novel small molecule inhibitor. *Oncotarget* 2017;8(32):52345-52356

**ALZET Comments:** Aldi-6; SC; Mice; 2004; 3 weeks; Dose (24 mg/kg/day); Controls received mp w/ vehicle; animal info (Six-week-old male NSG mice); Aldi-6 is a novel small molecule ALDH inhibitor; cancer (carcinoma);.

**Q6246:** Z. He, *et al.* CYP2J2 metabolites, epoxyeicosatrienoic acids, attenuate Ang II-induced cardiac fibrotic response by targeting Galpha12/13. *J Lipid Res* 2017;58(7):1338-1353

**ALZET Comments:** Angiotensin II; Saline; SC; Mice (transgenic); 1002; 2 weeks; Dose (1.5 ug/kg/min.); Controls received mp w/ vehicle; animal info (Eight-week-old male CYP2J2 transgenic mice and age-/sexmatched littermates); cardiovascular;.

**Q6260:** M. H. Gao, *et al.* Cardiac-directed expression of a catalytically inactive adenylyl cyclase 6 protects the heart from sustained beta-adrenergic stimulation. *PLoS One* 2017;12(8):e0181282

**ALZET Comments:** Isoproterenol; Saline; Ascorbic acid; SC; Mice (transgenic); 7 days; Dose (60 mg/kg/d); Saline with 0.1% ascorbic acid used; animal info (AC6mut mice and transgene negative siblings); cardiovascular;.

**Q6326:** L. Gao, *et al.* KLF15 protects against isoproterenol-induced cardiac hypertrophy via regulation of cell death and inhibition of Akt/mTOR signaling. *Biochem Biophys Res Commun* 2017;487(1):22-27

**ALZET Comments:** Isoproterenol; Saline; SC; Mice; 1007D; 5 weeks; Dose (40 mg.kg-1.d-1); 0.9% NaCl used; animal info (KLF15 transgenicmice (KLF15 $\beta$ /b) or knockout mice (KLF15 $^{-/-}$ );.

**Q6099:** C. Dai, *et al.* Age-dependent human beta cell proliferation induced by glucagon-like peptide 1 and calcineurin signaling. *J Clin Invest* 2017;127(10):3835-3844

**ALZET Comments:** Exendin-4; FK506; PBS; saline; SC; Mice (NSG), mice (NOD); 1004; 1002; 4 weeks; 2 weeks; Dose (exendin-4: 24 nmol/kg/d; FK506: 0.25 mg/kg/d); Controls received mp w/ vehicle; animal info (NOD.Cg-Prkdcscidll2rgtm1Wjl/Sz (NSG) mice); Multiple pumps per animal (2): some animals received a second pump containing FK506 after 2 weeks; diabetes;.

**Q6103:** S. Y. Cho, *et al.* A Novel Combination Treatment Targeting BCL-XL and MCL1 for KRAS/BRAF-mutated and BCL2L1-amplified Colorectal Cancers. *Mol Cancer Ther* 2017;16(10):2178-2190

**ALZET Comments:** YM155; Saline; SC; Mice; 1007D; 21 days; 0.9% saline used; Controls received mp w/ vehicle; animal info (4-week-old NSG female mice); cancer (colorectal);.

**Q5761:** S. Capsoni, *et al.* The chemokine CXCL12 mediates the anti-amyloidogenic action of painless human nerve growth factor. *Brain* 2017;140(1):201-217

**ALZET Comments:** Nerve growth actor, human painless; PBS; CSF/CNS; Mice (transgenic); 28 days; Controls received mp w/ vehicle; animal info (wt and transgenic 5xFAD); neurodegenerative (Alzheimer's disease); behavioral testing (Y-maze test); Therapeutic indication (Alzheimer's disease); Dose (.54 ug/kg);.



**Q6117:** S. N. Angelov, *et al.* TGF-beta (Transforming Growth Factor-beta) Signaling Protects the Thoracic and Abdominal Aorta From Angiotensin II-Induced Pathology by Distinct Mechanisms. *Arterioscler Thromb Vasc Biol* 2017;37(11):2102-2113

**ALZET Comments:** Angiotensin II; Saline; SC; Mice; 2004; 28 days; Dose (1000 ng/kg/min); animal info (Transgenic mice on C57BL/6 background); antihypertensive; cardiovascular;

### 3. NOD/SCID Mice

**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); );

**Q6474:** Y. Kojima, *et al.* YM155 induces apoptosis through proteasome-dependent degradation of MCL-1 in primary effusion lymphoma. *Pharmacol Res* 2017;120(242-251)

**ALZET Comments:** YM155; DMSO; SC; Mice; 20 days; Dose (5 mg/kg/day); Controls received mp w/ vehicle; animal info (7-week-old male NOD/SCID IL-2R $\gamma$ c<sup>-/-</sup>); cancer (Primary effusion lymphoma);

**Q4093:** F. P. Seib, *et al.* Tissue engineering a surrogate niche for metastatic cancer cells. *Biomaterials* 2015;51(313-319)

**ALZET Comments:** Stromal cell-derived factor 1; receptor activator of nuclear factor kappa-B ligand; Bone; Mice (NOD/SCID; nude); 1004; 30 days; Controls received mp w/ PBS; animal info (female, NOD/SCID, 6-10 weeks old; male, athymic nude, 6-10 weeks old); cancer (breast; prostate); receptor activator of nuclear factor kappa-B ligand aka RANKL; Stromal cell-derived factor 1 aka SDF-1;

**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.

**Q4150:** D. Vecchio, *et al.* Predictability, efficacy and safety of radiosensitization of glioblastoma- initiating cells by the ATM inhibitor KU- 60019. *International Journal of Cancer* 2014;135(479-491)

**ALZET Comments:** KU-60019; Ethanol; CSF/CNS; Mice (NOD/SCID); 1007D; 7 days; Controls received mp w/ vehicle; animal info (NOD/SCID); 10% ethanol used; cancer (gliomablastoma); stress/adverse reaction: (see pg. 486); KU-60019 is a specific ATM inhibitor;

**Q3522:** Y. Jiao, *et al.* Elevated Mouse Hepatic Betatrophin Expression Does Not Increase Human beta-Cell Replication in the Transplant Setting. *Diabetes* 2014;63(1283-1288)

**ALZET Comments:** S961; Water; SC; Mice (NOD/SCID); 2001; 7 days; Controls received mp w/ vehicle; animal info (female, Nod-SCID, 8 weeks old); diabetes; S961 is an insulin receptor antagonist; infusion causes hyperglycemia in NOD/SCID.

**Q2594:** R. Welschinger, *et al.* Plerixafor (AMD3100) induces prolonged mobilization of acute lymphoblastic leukemia cells and increases the proportion of cycling cells in the blood in mice. *Experimental Hematology* 2013;41(3):293-302

**ALZET Comments:** AMD 3100; Mice (NOD/SCID); 3 weeks; Control animals received mp w/ vehicle; animal info (NOD/SCID).

**Q3135:** J. D. Tian, *et al.* gamma-Aminobutyric Acid Regulates Both the Survival and Replication of Human beta-Cells. *Diabetes* 2013;62(11):3760-3765



**ALZET Comments:** Muscimol; PBS; SC; Mice (NOD/SCID); 1002; 14 days; Controls received mp w/ vehicle; animal info (male, C57BL6, 10 weeks old; NOD/SCID); diabetes.

**Q3034:** N. Suzuki, *et al.* Generation of Engraftable Hematopoietic Stem Cells From Induced Pluripotent Stem Cells by Way of Teratoma Formation. MOLECULAR THERAPY 2013;21(7):1424-1431

**ALZET Comments:** Stem cell factor, human recomb.; SC; Mice (NOD/SCID); 2 weeks; Animal info (NOD/SCID (male, 5-7 weeks old); KSN/Slc (4-5 weeks old)); immunology; peptides.

**Q2663:** E. Salomonsson, *et al.* Imaging CXCL12-CXCR4 Signaling in Ovarian Cancer Therapy. PLoS One 2013;8(1):U82-U91

**ALZET Comments:** AMD 3100; NaCl; SC; Mice (NSG); 2 weeks; Control animals received mp w/ vehicle; animal info (NOD/SCID, IL2r gamma -/-).

**Q3101:** C. M. Krejsa, *et al.* Interleukin-21 Enhances Rituximab Activity in a Cynomolgus Monkey Model of B Cell Depletion and in Mouse B Cell Lymphoma Models. PLoS One 2013;8(6):U875-U888

**ALZET Comments:** Interleukin-12, recomb. human; Saline; SC; Mice (SCID; NOD/SCID); 2004; 28 days; Animal info (female, SCID and NOD/SCID, 8-10 weeks old); cancer (Lymphoma);.

**Q3065:** P. Cravedi, *et al.* Immune Cell-Derived C3a and C5a Costimulate Human T Cell Alloimmunity. AMERICAN JOURNAL OF TRANSPLANTATION 2013;13(10):2530-2539

**ALZET Comments:** Peptide, C5a receptor antagonist; Mice (NSG); 28 days; Controls received mp w/ vehicle; animal info (female, NOD/SCID gamma, 6-8 weeks old); immunology; C5a receptor antagonist aka C5aRA;

**Q2109:** C. Westwell-Roper, *et al.* IL-1 Blockade Attenuates Islet Amyloid Polypeptide-Induced Proinflammatory Cytokine Release and Pancreatic Islet Graft Dysfunction. Journal of Immunology 2011;187(5):2755-2765

**ALZET Comments:** Anakinra; Mice (NOD/SCID); 8 weeks; Controls received mp w/ saline; animal info (11 wks old, NOD/SCID); pumps replaced every 2 weeks; immunology.

**Q1234:** L. Mirandola, *et al.* Galectin-3C Inhibits Tumor Growth and Increases the Anticancer Activity of Bortezomib in a Murine Model of Human Multiple Myeloma. PLoS One 2011;6(7):U173-U186

**ALZET Comments:** Galectin-3C; PBS; IP; IV; Mice (NOD/SCID); 2002; 16 days; Controls received mp w/ vehicle; animal info (female, 6 wks old, NOD/SCID); cancer (multiple myeloma); half-life, 3 hours (p. e21811); "Our data suggest that sustained delivery may be preferable (over injections intramuscularly twice daily) for maximal response to treatment" pg e21811; galectin-3C is an N-terminally truncated form of galectin-3.

**Q0172:** B. Maier, *et al.* The unique hypusine modification of eIF5A promotes islet beta cell inflammation and dysfunction in mice. Journal of Clinical Investigation 2010;120(6):2156-2170

**ALZET Comments:** GC7; Saline; SC; Mice (NSG); 8 days; Controls received mp w/ vehicle; enzyme inhibitor (deoxyhypusine synthase); animal info (male, C57BL/6J, NOD/SCID/Il2rg-null, 10 weeks old); comparison of IP injections vs. mp; endocrinology; agent also known as N1-guanyl-1,7-diaminoheptane.

**Q0673:** C. L. Roland, *et al.* Cytokine Levels Correlate with Immune Cell Infiltration after Anti-VEGF Therapy in Preclinical Mouse Models of Breast Cancer. PLoS One 2009;4(11):U41-U53

**ALZET Comments:** GU81; IP; Mice (NOD/SCID); 1, 3, 4 weeks; Controls received IP IgG injection; animal info (6-8 wks old, female, NOD/SCID, BALB/c); cancer (breast); chemotherapeutic.

**P9704:** S. Kaneko, *et al.* IL-7 and IL-15 allow the generation of suicide gene-modified alloreactive self-renewing central memory human T lymphocytes. Blood 2009;113(5):1006-1015

**ALZET Comments:** Ganciclovir; SC; Mice (NOD/SCID); 7 days; Controls received mp w/PBS; animal info (6-8 wks old, female, NOD/Scid); "ALZET pumps...were implanted subcutaneously to ensure drug release at a constant rate" pg 1008.

**P9279:** L. U. W. Mueller, *et al.* Rac guanosine triphosphatases represent a potential target in AML. LEUKEMIA 2008;22(9):1803-1806





**ALZET Comments:** NSC23766; Mice (NOD/SCID); 28 days; Controls received mp w/ PBS; pumps replaced after 14 days; enzyme inhibitor (Rac GTPas); cancer (acute myeloid leukemia); multiple pumps per animal (2); animal info (NOD/SCID, irradiated);

**P8712:** G. P. Vasvari, *et al.* Combination of thalidomide and cisplatin in an head and neck squamous cell carcinomas model results in an enhanced antiangiogenic activity in vitro and in vivo. *International Journal of Cancer* 2007;121(8):1697-1704

**ALZET Comments:** Cisplatin; IP; Mice (NOD/SCID); 1002; 4 weeks; Controls received no treatment; pumps replaced after 2 weeks; no stress (see pg. 1699); cancer (head/neck squamous cell carcinoma); animal info (female, NOD/SCID, 6-8 wks old, 15-25g).

**P7936:** A. Bondanza, *et al.* Suicide gene therapy of graft-versus-host disease induced by central memory human T lymphocytes. *Blood* 2006;107(5):1828-1836

**ALZET Comments:** Ganciclovir; SC; Mice (NOD/SCID); 2001; 7 days; Controls received mp w/ saline; animal info (female, NOD/SCID, 6-8 weeks old, GvHD); gene therapy.

#### 4. SCID Mice

**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);

**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); );

**Q7075:** B. Li, *et al.* Epigenetic Regulation of CXCL12 Plays a Critical Role in Mediating Tumor Progression and the Immune Response In Osteosarcoma. *Cancer Res* 2018;78(14):3938-3953

**ALZET Comments:** AMD3100; AMG487; IP; Mice (nude); animal info (Five-week-old female immunocompetent BALB/c mice and immunodeficient NOD-SCID IL2rnull (NSG) mice); cancer (osteosarcoma);

**Q7079:** B. Kuhn, *et al.* Anti-inflammatory nitro-fatty acids suppress tumor growth by triggering mitochondrial dysfunction and activation of the intrinsic apoptotic pathway in colorectal cancer cells. *Biochem Pharmacol* 2018;155(48-60

**ALZET Comments:** Nitrooleate, 9-; PEG 400, ethanol; SC; Mice (SCID); 2001; 5 days; Dose (16 mg/kg/day); 10% ethanol and 90% PEG400 used; animal info (5–6 week old SCID mice); pumps replaced after 7 days; 9-NOA is a Nitro-fatty acids; cancer (colorectal); “we have chosen a continuous application of NFAs via ALZET® osmotic pumps giving the advantage of a reduction of interindividual variations in mice due to a diverse oral chow consumption behavior and therefore kept the number of animals needed as low as possible.” pg. 57; Due to poor solubility of 9-NOA and limited pump size in consequence of the weight of the mice, pumps were surgically removed and replaced with new ones on day 8 of the experiment;

**Q5719:** X. Yan, *et al.* YM155 Down-Regulates Survivin and Induces P53 Up-Regulated Modulator of Apoptosis (PUMA)-Dependent in Oral Squamous Cell Carcinoma Cells. *Medical Science Monitor* 2017;23(1963-1972

**ALZET Comments:** YM155; Saline; SC; Mice (SCID); 1003D; 2 weeks; Controls received mp w/ vehicle; animal info (female, SCID, 4-6 weeks old); cancer (oral squamous cell carcinoma, SCC9); xenograft model; Pumps infused for 3 days per week for two weeks; Therapeutic indication (oral squamous cell carcinoma); Dose (50 mg/kg);



**Q6474:** Y. Kojima, *et al.* YM155 induces apoptosis through proteasome-dependent degradation of MCL-1 in primary effusion lymphoma. *Pharmacol Res* 2017;120(242-251

**ALZET Comments:** YM155; DMSO; SC; Mice; 20 days; Dose (5 mg/kg/day); Controls received mp w/ vehicle; animal info (7-week-old male NOD/SCID IL-2R $\gamma$ c<sup>-/-</sup>); cancer (Primary effusion lymphoma);.

**Q6099:** C. Dai, *et al.* Age-dependent human beta cell proliferation induced by glucagon-like peptide 1 and calcineurin signaling. *J Clin Invest* 2017;127(10):3835-3844

**ALZET Comments:** Exendin-4; FK506; PBS; saline; SC; Mice (NSG), mice (NOD); 1004; 1002; 4 weeks; 2 weeks; Dose (exendin-4: 24 nmol/kg/d; FK506: 0.25 mg/kg/d); Controls received mp w/ vehicle; animal info (NOD.Cg-Prkdcscid112rgtm1Wjl/Sz (NSG) mice); Multiple pumps per animal (2): some animals received a second pump containing FK506 after 2 weeks; diabetes;.

**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.);.

**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 ();.

**Q5312:** K. Caviness, *et al.* Complex Interplay of the UL136 Isoforms Balances Cytomegalovirus Replication and Latency. *MBio* 2016;7(2):e01986

**ALZET Comments:** Granulocyte-colony stimulating factor; AMD3100; IP; Mice (NOD/SCID); 1007D; 1 week; animal info (NOD-scid humanized (huNSG) mice); gene therapy; immunology; Engraftment of human CD45+ cells; viral persistence; Dose (300mg/ml Colony-stim; 125 ug AMD3100);.

**Q5313:** M. Cadamuro, *et al.* Low-Dose Paclitaxel Reduces S100A4 Nuclear Import to Inhibit Invasion and Hematogenous Metastasis of Cholangiocarcinoma. *Cancer Res* 2016;76(16):4775-84

**ALZET Comments:** Paclitaxel; Cremophor EL, Ethanol; IP; Mice (SCID); 1004; 2 weeks; Controls received mp w/ vehicle; animal info (SCID mice 6–8 weeks old); functionality of mp verified by bioluminescence imaging to check metastatic spread; 50% Cremophor, 50% ethanol used; cancer (Cholangiocarcinoma); Xenograft model; Dose (2.6 mg/kg/d);.

**Q4662:** T. Yonezawa, *et al.* Anti-metastatic outcome of isoform-specific prolactin receptor targeting in breast cancer. *CANCER LETTERS* 2015;366(84-92

**ALZET Comments:** Prolactin, recombinant human; oligomer, splice-modulating; SC; Mice (NOD/SCID); 5 days; 25 days; 40 days; Controls received mp w/ vehicle; animal info (female, BALB/cJ or NOD SCID, 8-9 weeks old); functionality of mp verified by plasma levels; pumps replaced every 28 days; cancer (breast); dose-response (pg 87);.

**Q4661:** H. Yassine, *et al.* The non glycanated endocan polypeptide slows tumor growth by inducing stromal inflammatory reaction. *ONCOTARGET* 2015;6(2725-2735

**ALZET Comments:** Endocan/S137A, recombinant human; PBS; SC; Mice (SCID); 2004; 28 days; Controls received mp w/ vehicle; animal info (male, CB-17 scid/scid homozygous, 5-6 weeks old); functionality of mp verified by blood levels; cancer (colon adenocarcinoma HT-29); immunology;.

**Q5008:** Yael Kusne, *et al.* Targeting aPKC disables oncogenic signaling by both the EGFR and the proinflammatory cytokine TNFa in glioblastoma. *Science Signaling* 2015;7(338):1-15



**ALZET Comments:** PZ09; CSF/CNS (lateral ventricle); mice; 7, 14 days; animal info (Six- to 8-week-old female NOD-SCID, TNFα<sup>-/-</sup>, and control mice); dose-response (pg. 2-5); tissue perfusion (brain; glioblastomas); PZ09 aka small-molecule, benzimidazole adenosine triphosphate-competitive aPKC inhibitor; xenografts; Dose: 10 uM PZ09.

**Q5283:** J. L. Tso, *et al.* Bone morphogenetic protein 7 sensitizes O6-methylguanine methyltransferase expressing-glioblastoma stem cells to clinically relevant dose of temozolomide. *Mol Cancer* 2015;14(189)

**ALZET Comments:** Bone morphogenetic protein-7, Temozolomide; Water; DMSO; CSF/CNS; mice; 1007D; 5 days; Controls received mp w/ vehicle; animal info (NOD (CB17-Prkdcscid/J) mice (5 weeks old; 15–16 g)); functionality of mp verified by observation of neurological signs; 0.01% DMSO used; cancer (intracranial tumor); Dose (100 µl of 35 µM TMZ, 10 ng BPM7).

**Q4093:** F. P. Seib, *et al.* Tissue engineering a surrogate niche for metastatic cancer cells. *Biomaterials* 2015;51(313-319)

**ALZET Comments:** Stromal cell-derived factor 1; receptor activator of nuclear factor kappa-B ligand; Bone; Mice (NOD/SCID; nude); 1004; 30 days; Controls received mp w/ PBS; animal info (female, NOD/SCID, 6-10 weeks old; male, athymic nude, 6-10 weeks old); cancer (breast; prostate); receptor activator of nuclear factor kappa-B ligand aka RANKL; Stromal cell-derived factor 1 aka SDF-1;

**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.

**Q4483:** R. Kogo, *et al.* The microRNA-218 similar to Survivin axis regulates migration, invasion, and lymph node metastasis in cervical cancer. *ONCOTARGET* 2015;6(1090-1100)

**ALZET Comments:** YM155; SC; Mice (SCID); 1003D; 6 days; Controls received mp w/ saline; animal info (female, SCID, 6-8 weeks old); pumps replaced every week - YM155 administered 3 days per week for 2 weeks; cancer (cervical); YM155 is a small molecule survivin inhibitor;

**Q5143:** A. C. Dusabineza, *et al.* Hepatic Stellate Cells Improve Engraftment of Human Primary Hepatocytes: A Preclinical Transplantation Study in an Animal Model. *Cell Transplant* 2015;24(12):2557-71

**ALZET Comments:** Uridine, bromodeoxy-; IP; mice; 1004; 6 hours; 4 weeks; animal info: SCID mice, females, 20–24 g; GFP+ transgenic mice, males, 35–44 g; gene therapy;

**Q3827:** J. C. Carry, *et al.* SARI 56497, an Exquisitely Selective Inhibitor of Aurora Kinases. *Journal of Medicinal Chemistry* 2015;58(362-375)

**ALZET Comments:** Compound 47; SC; Mice (SCID); 2001D; 24 hours; 28 hours; Animal info (female, SCID); cancer (human acute myeloid leukemia EOL-1, human colon adenocarcinoma HCT116); dose-response (pg 369); Compound 47 aka SAR156497; SAR156497 is an aurora kinase inhibitor;

## 5. Nude Mice

**Q7039:** X. Yu, *et al.* Synergistic antitumor effects of 9.2.27-PE38KDEL and ABT-737 in primary and metastatic brain tumors. *PLoS One* 2019;14(1):e0210608

**ALZET Comments:** 9.2.27-PE38KDEL immunotoxin, ABT-737; PBS, captisol, mouse serum albumin; CSF/CNS; Mice (nude); 1007D; 3 days; 5% Captisol and 2% mouse serum albumin used; animal info (Nude mice (22–30 g, 6–8 weeks); ALZET brain infusion kit 3 used; cancer (glioblastoma); “Convection-enhanced delivery (CED), utilizing osmotic pumps, has been successfully used to bypass the blood-brain barrier and to deliver ITs directly into brain tumors” pg.12 ;

**Q7080:** S. Krishnamurthy, *et al.* Hyperosmotic intraventricular drug delivery of DV1 in the management of intracranial metastatic breast cancer in a mouse model. *J Clin Neurosci* 2019;62(207-211)



**ALZET Comments:** DV1; Saline; CSF/CNS (left ventricle); Mice (nude); 1007D; 7 days; Dose (50 mg/kg/day); Controls received mp w/ vehicle; animal info (female athymic nude mice, 8 weeks old,); DV1 is a synthetic inhibitor of Chemokine receptor 4 (CXCR4); ALZET brain infusion kit 3 used; cyanoacrylate adhesive; cancer (breast); the skin incision was closed with Vetbond;

**Q6885:** H. Kaneko, *et al.* Developmental ability of oocytes retrieved from Meishan neonatal ovarian tissue grafted into nude mice. *Anim Sci J* 2019;

**ALZET Comments:** Follicle stimulating hormone, porcine; Saline; Mice (nude); 2004; 13 days; Dose (porcine FSH (62.5 or 125 U/ml); animal info (Female nude mice (Crlj:CD1-Foxn1nu));

**Q6915:** K. Mitsuoka, *et al.* Predicting response to sepantronium bromide (YM155), a survivin suppressant, by PET imaging with [(11)C]YM155. *Nucl Med Biol* 2018;64-65(41-46

**ALZET Comments:** YM155; DMSO; Saline; SC; Mice (nude); 1003D; 1007D; 2 weeks; animal info (5-6 week old Male athymic nude mice); YM155 aka Sepantronium bromide; cancer (tumor);

**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 a 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);

**Q7021:** H. Hvid, *et al.* Activation of insulin receptors and IGF-1 receptors in COLO-205 colon cancer xenografts by insulin and insulin analogue X10 does not enhance growth under normo- or hypoglycaemic conditions. *Diabetologia* 2018;61(11):2447-2457

**ALZET Comments:** Insulin, human; X10; SC; Mice (nude); Dose (insulin at 27 nmol/kg/d; X10 at 41 nmol/kg/d); Controls received mp w/ vehicle; animal info (male BALB/c nude mice); X10 is an insulin analog; cancer (colon); diabetes;

**Q7128:** L. Detti, *et al.* Xenotransplantation of pre-pubertal ovarian cortex and prevention of follicle depletion with anti-Müllerian hormone (AMH). *J Assist Reprod Genet* 2018;35(10):1831-1841

**ALZET Comments:** anti-Müllerian hormone, recomb.; Saline; IP; Mice (nude); 1002; 2 weeks; Dose (1.23 ug/d); Controls received mp w/ vehicle; animal info (10-week-old NU/J mice, or nude mice,); functionality of mp verified by residual volume;

**Q5934:** D. Yu, *et al.* Multiplexed RNAi therapy against brain tumor-initiating cells via lipopolymeric nanoparticle infusion delays glioblastoma progression. *Proc Natl Acad Sci U S A* 2017;114(30):E6147-E6156

**ALZET Comments:** RNA, small interfering; CSF/CNS (intratumoral); mice (nude); 1002, 2002; 14 days; animal info (athymic nude, 6-8 weeks old); ALZET brain infusion kit 3 used; cancer (glioblastoma); "Because repeated surgery introduces stress and pain that may impact the survival of the experimental animals, we opted for the convection-enhanced delivery (CED) strategy using an Alzet osmotic pump to deliver a continuous supply of the nano RNAi combination..." pg E6151;

**Q6182:** B. Sitohy, *et al.* Early Actions of Anti-Vascular Endothelial Growth Factor/Vascular Endothelial Growth Factor Receptor Drugs on Angiogenic Blood Vessels. *Am J Pathol* 2017;187(10):2337-2347

**ALZET Comments:** L-NAME, D-NAME; PBS; SC; Mice (nude); 1003D; 1 day; Dose: L-NAME (134 mg/kg/day); Controls received mp w/ vehicle; animal info (4 to 6-week-old female athymic nude mice, wild-type C57BL/6 and eNOS null mice); N(G)-nitro-L-arginine methyl ester aka L-NAME; N(G)-nitro-L-arginine methyl ester (inactive isomer) aka D-NAME; "Because oral administration could not be counted on to deliver a consistent amount of drug reliably over a short (1 day) period of time, L- and D-NAME were administered by way of s.c. implanted minipumps."

**Q6348:** N. Nakamura, *et al.* RAGE-aptamer Attenuates the Growth and Liver Metastasis of Malignant Melanoma in Nude Mice. *Mol Med* 2017;23(295-306



**ALZET Comments:** RAGE-aptamer; IP; Mice (nude); 42 days; Dose (38.4 pmol/day/g body weight); Controls received mp w/ vehicle; animal info (Six-week-old female athymic nude mice); half-life (p.); cancer (G361 melanoma);.

**Q6593:** E. M. Masko, *et al.* Evidence for Feedback Regulation Following Cholesterol Lowering Therapy in a Prostate Cancer Xenograft Model. *Prostate* 2017;77(5):446-457

**ALZET Comments:** Simvastatin; DMSO; PBS; SC; Mice (nude); 2006; Dose (11 mg/kg/day); 40% DMSO, 60% PBS used; Controls received mp w/ vehicle; animal info (6 week old male Athymic Nude-Foxn1Nu mice);.

**Q6286:** T. Lin, *et al.* Orthopaedic wear particle-induced bone loss and exogenous macrophage infiltration is mitigated by local infusion of NF-kappaB decoy oligodeoxynucleotide. *J Biomed Mater Res A* 2017;105(11):3169-3175

**ALZET Comments:** Polyethylene, ultra-high molecular weight; oligodeoxynucleotide; lipopolysaccharide; Bone (femur); Mice (nude); 2006; 21 days; Dose (UHMWPE particles (15 mg/mL), decoy ODN (50 IM), and/or LPS (1 lg/mL)); animal info (10-12 week old male athymic nude mice);.

**Q5949:** L. Laborde, *et al.* Continuous low plasma concentrations of everolimus provides equivalent efficacy to oral daily dosing in mouse xenograft models of human cancer. *Cancer Chemother Pharmacol* 2017;80(4):869-878

**ALZET Comments:** Everolimus; SC; Mice; Mice (nude); 1003D; 1002; 3 days; 2 weeks; Dose (2.4 or 0.6 mg/kg/day) In nude mice (1.6 and 0.9 mg/kg/day); animal info (Female Harlan athymic nude mice weighing 20–30 g); post op. care (buprenorphine and meloxicam); comparison of IV, IP, oral, SC administration versus SC osmotic mini-pumps or via poly-lactic-co-glycolic (PLGA)-microparticles (PLGA-μP); Resultant plasma level (1878 and 450 ng/mL. In nude mice: 614 ± 72 and 604 ± 108 ng/mL); cancer (breast, renal); “Although mini-pumps may not be practical for clinical use, they allowed us a proof-of-concept of whether low continuous dosing could give useful efficacy which might also impact toxicity. Pilot experiments... confirmed that MPs could provide relatively constant everolimus concentrations in the plasma.”.

**Q6309:** M. Joglekar-Javadekar, *et al.* Characterization and Targeting of Platelet-Derived Growth Factor Receptor alpha (PDGFRA) in Inflammatory Breast Cancer (IBC). *Neoplasia* 2017;19(7):564-573

**ALZET Comments:** Crenolanib; DMSO; SC; Mice (nude); 1002; 10 days; Dose (15 mg/kg/day); Controls received mp w/ vehicle; animal info (female athymic nude mice); cancer (inflammatory breast);.

**Q6379:** J. Fazzari, *et al.* Identification of capsazepine as a novel inhibitor of system xc(-) and cancer-induced bone pain. *J Pain Res* 2017;10(9):915-925

**ALZET Comments:** Capsazepine; IP; Mice (nude); 1004; 28 days; Dose (5 and 10 mg/kg); animal info (4-6 week old female athymic BALB/c nu/nu homozygous nude mice); behavioral testing (Dynamic Plantar Aesthesiometer and the Dynamic Weight Bearing); Capsazepine is an inhibitor of xCT in MDA-MB-231 cancer cells;.