



References on the Administration of Agents to Severe Combined Immunodeficient (SCID) Mice Using ALZET® Osmotic Pumps

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 IL2rgnull (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-2Rγc^{-/-}); 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-Prkdcscidll2rgtm1Wjl/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 TNF α 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, TNF α -/-, 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 μ M 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 μ l of 35 μ M 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;.

Q4193: T. Yamada, *et al.* Human Hepatocytes Support the Hypertrophic but not the Hyperplastic Response to the Murine Nongenotoxic Hepatocarcinogen Sodium Phenobarbital in an In Vivo Study Using a Chimeric Mouse with Humanized Liver. *TOXICOLOGICAL SCIENCES* 2014;142(137-157)

ALZET Comments: Growth hormone, recombinant human; uridine, bromodeoxy; SC; Mice (transgenic; SCID); Rat; 1002; 2ML1; 7 days; 14 days; Animal info (mice male, CD-1 or ICR or SCID, 10 weeks old; rat male, Wistar, 10 weeks old); toxicology;.

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 (glioblastoma); stress/adverse reaction: (see pg. 486); KU-60019 is a specific ATM inhibitor;.

Q3569: M. L. Rock, *et al.* The Time-to-Integrate-to-Nest Test as an Indicator of Wellbeing in Laboratory Mice. *Journal of the American Association for Laboratory Animal Science* 2014;53(1):24-28

ALZET Comments: Aldosterone; uridine, bromodeoxy-; Ethanol; saline; SC; Mice; 5 days; Controls received mp w/ vehicle; animal info (10 mouse strains; BALB/cAnNCrI, 129S2/ SvPasCrI, FVB/NCrI, C57BL/6NCrI, C3H/HeNCrI, CB17/ Icr-Prkdcscid/IcrIcoCrI, NOD.CB17-Prkdcscid/NCrCrI, CB17.Cg/ Prkdcscid Lystbg/CrI, C57BL/6NTac, and C57BL/6NJ, carotid artery injury); 11% ethanol used; Multiple pumps per animal (2); post op. care (buprenorphine 0.05 mg/kg SC); behavioral testing (nesting behavior); cardiovascular;.

Q3548: F. Li, *et al.* Sphingosine-1-phosphate prevents chemotherapy-induced human primordial follicle death. *Human Reproduction* 2014;29(1):107-113

ALZET Comments: Sphingosine-1-phosphate; Mice (SCID); 4 days; Controls received mp w/ vehicle; animal info (SCID, xenograph); cancer (ovarian); "Mini-osmotic pumps were used because of the very short plasma half-life of S1P." pg 108;.



Q3522: Y. Jiao, *et al.* Elevated Mouse Hepatic Betatrophin Expression Does Not Increase Human beta-Cell Replication in the Transplant Setting. *Diabetes* 2014;63(12):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.

Q3810: A. K. Azab, *et al.* CXCR7-dependent angiogenic mononuclear cell trafficking regulates tumor progression in multiple myeloma. *Blood* 2014;124(19):1905-1914

ALZET Comments: POL6926; SC; Mice; 1002; 2002; 2004; 3 weeks; 4 weeks;; Animal info (BALB/c or SCID); pumps replaced every 2 weeks; cancer (multiple myeloma); POL6926 is a CXCR7 inhibitor;

Q2878: N. Zhidkov, *et al.* Continuous Intraperitoneal Carboplatin Delivery for the Treatment of Late-Stage Ovarian Cancer. *MOLECULAR PHARMACEUTICS* 2013;10(9):3315-3322

ALZET Comments: Carboplatin; PBS; IP; Mice (SCID); 1002; 14 days; Controls received mp w/ saline; toxicology; animal info (6-8 week old female SCID); comparison of bolus injection vs mp; cancer (ovarian).

Q3126: N. Xiao, *et al.* A Novel Aldehyde Dehydrogenase-3 Activator (Alda-89) Protects Submandibular Gland Function from Irradiation without Accelerating Tumor Growth. *Clinical Cancer Research* 2013;19(16):4455-4464

ALZET Comments: Alda-89; DMSO; PEG 400; IP; Mice (SCID); 2006; 6 weeks; Controls received mp w/ vehicle; animal info (female, C57BL6, 4-5 weeks old; SCID, 4-6 weeks old); 50% DMSO; 50% PEG 400 used; cancer (head and neck); stress/adverse reaction: (see pg.4459); Alda-89 is an ALDH3 activator;

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);.

Q5054: K. M. Henkels, *et al.* Phospholipase D (PLD) drives cell invasion, tumor growth and metastasis in a human breast cancer xenograph model. *Oncogene* 2013;32(49):5551-62

ALZET Comments: Apigenin, FIPI, NOPT; DMSO; SC; mice; 4, 5 weeks; animal info: SCID; cancer (breast); dose-response: Fig. 5; enzyme inhibitor (tyrosine kinase); half-life: >12 hrs. in humans; mp were used to study the effect of apigenin on tumor cell metastasis. Paper does not mention ALZET pump model; dose: 1.8 mg/kg/day.

Q3340: C. Grommes, *et al.* The PPARgamma agonist pioglitazone crosses the blood-brain barrier and reduces tumor growth in a human xenograft model. *Cancer Chemotherapy and Pharmacology* 2013;71(4):929-936



ALZET Comments: Pioglitazone; Dulbecco's modified eagle medium; CSF/CNS; Mice (SCID); 2004; 21 days; Controls received mp w/ vehicle; animal info (Balb/CJHanHsd-Prkdc-SCID, 6 weeks old); ALZET brain infusion kit used; comparison of oral dosing vs mp; cancer (tumors); dose-response (CNS); stability verified by (p.934 - incubation at 37C for 21 days); "Intracerebral treatment with 1 IM pio prolonged survival significantly from 49 to 68 days... This defines the minimal effective dose for oral pio treatment at 240 PPM (20.2 mg/kg) and for intracerebral pio treatment at 1 IM (0.11 ug/kg)." pg 932;.

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;.

Q3059: V. Chandramohan, *et al.* Construction of an Immunotoxin, D2C7-(scdsFv)-PE38KDEL, Targeting EGFRwt and EGFRVIII for Brain Tumor Therapy. Clinical Cancer Research 2013;19(17):4717-4727

ALZET Comments: Immunotoxin, D2C7-(scdsFv)-PE38KDEL; PBS-HSA; CSF/CNS; Mice (NSG); 3 days; 5 days; Controls received mp w/ vehicle or P588-(scdsFv)-PE38KDEL; animal info (male, NOD SCID gamma, 30 g, 8-12 weeks old); cancer (gliomas); toxicology; immunology; "This method of continuous intracranial delivery will aid in achieving elevated concentrations and uniform distribution of D2C7-(scdsFv)-PE38KDEL at the tumor site, which would be expected to optimize its antitumor activity. By this method, we were able to achieve significant increase in survival at a very low dose of 1 mg of D2C7-(scdsFv)-PE38KDEL" pg.4725;.

Q7211: V. Chandramohan, *et al.* Recombinant anti-podoplanin (NZ-1) immunotoxin for the treatment of malignant brain tumors. Int J Cancer 2013;132(10):2339-48

ALZET Comments: Immunotoxin, NZ-1-(scdsFv)-PE38KDEL; Immunotoxin, P588-(scdsFv)-PE38KDEL; PBS, human serum albumin; CSF/CNS (intratumoral); Mice (NSG); 1003D; 3 days; 0.2% PBS-HSA used; Controls received mp w/ vehicle; animal info (Male NOD scid gamma (NSG) mice (20–30 g; 12 weeks)); cancer (glioblastoma, medulloblastoma);.

Q2314: S. L. Maude, *et al.* Targeting JAK1/2 and mTOR in murine xenograft models of Ph-like acute lymphoblastic leukemia. Blood 2012;120(17):3510-3518

ALZET Comments: Ruxolitinib; Dimethylacetamide; propylene glycol; SC; Mice (NSG); 3-4 weeks; Control animals received mp w/ vehicle; animal info (NOD SCID, nonobese); ruxolitinib also known as INCB018424; stress/adverse effects "One ruxolitinib-treated mouse... experienced a wound dehiscence at the subcutaneous pump surgical site" pg 3512; cancer (leukemia); chemotherapeutic; 40% DMA used; 60% propylene glycol used;.

Q2059: D. M. Lamkin, *et al.* Chronic stress enhances progression of acute lymphoblastic leukemia via beta-adrenergic signaling. BRAIN BEHAVIOR AND IMMUNITY 2012;26(4):635-641

ALZET Comments: Propranolol hydrochloride; PBS; SC; Mice (SCID); Controls received mp w/ vehicle; animal info (SCID, male, 6-8 wks old).

Q2324: C. Holmberg, *et al.* Release of TGF beta ig-h3 by gastric myofibroblasts slows tumor growth and is decreased with cancer progression. Carcinogenesis 2012;33(8):1553-1562

ALZET Comments: Transforming growth factor-beta-induced gene h3; Mice (SCID); Animal info (SCID, 6-8 wks old); cancer.

Q2074: M. P. Ghadimi, *et al.* Survivin Is a Viable Target for the Treatment of Malignant Peripheral Nerve Sheath Tumors. Clinical Cancer Research 2012;18(9):2545-2557

ALZET Comments: YM155; Saline; SC; Mice (nude/SCID); 1003D; 3 days; Controls received mp w/ vehicle; animal info (SCID, STS26T).

Q2168: M. Germann, *et al.* Stem-Like Cells with Luminal Progenitor Phenotype Survive Castration in Human Prostate Cancer. Stem Cells 2012;30(6):1076-1086

ALZET Comments: Uridine, bromodeoxy; NaCl; SC; Mice (SCID); 2 weeks; Animal info (male, SCID); 14-day pump used; labeling of CR BM18 cancer cells; cancer (prostate).



Q2078: G. Faleo, *et al.* Prevention of Autoimmune Diabetes and Induction of beta-Cell Proliferation in NOD Mice by Hyperbaric Oxygen Therapy. *Diabetes* 2012;61(7):1769-1778

ALZET Comments: Exenatide; SC; IP; Mice (NOD/SCID); 2 weeks; Controls received mp without hyperbaric oxygen therapy; animal info (NOD/MrkTac, NOD.SCID); hyperbaric oxygen therapy 100% (HOT-100%); diabetes.

Q2322: G. Caceres, *et al.* HG-829 Is a Potent Noncompetitive Inhibitor of the ATP-Binding Cassette Multidrug Resistance Transporter ABCB1. *Cancer Research* 2012;72(16):4204-4213

ALZET Comments: HG-829; Cremophor EL; ethanol; water; IP; Mice (SCID); 2004; Control animals received mp w/ vehicle; animal info (SCID, CB17, 5-7 wks old); 35% cremophor EL, 35% ethanol used; SC pump connected to IP catheter; cancer; HG-829, aka PGE2799041, is a Pgp modulator.

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.

Q0858: C. Tateno, *et al.* Growth Hormone-Dependent Pathogenesis of Human Hepatic Steatosis in a Novel Mouse Model Bearing a Human Hepatocyte-Repopulated Liver. *Endocrinology* 2011;152(4):1479-1491

ALZET Comments: Growth hormone, human; SC; Mice (transgenic/SCID); 2 weeks; Animal info (uPA/SCID, 20-30 days old, chimeric).

Q1332: R. Soleimani, *et al.* Enhancement of Neoangiogenesis and Follicle Survival by Sphingosine-1-Phosphate in Human Ovarian Tissue Xenotransplants. *PLoS One* 2011;6(4):U2019-U2026

ALZET Comments: Sphingosine-1-Phosphate; Saline; SC; Mice (SCID); 2001D; 1-4 days; 24 hours; Controls received mp w/ vehicle; animal info (SCID).

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.

Q0757: V. Leksa, *et al.* Soluble M6P/IGF2R Released by TACE Controls Angiogenesis via Blocking Plasminogen Activation. *Circulation Research* 2011;108(6):676-U323

ALZET Comments: Peptide (18-36); scrambled peptide; SC; Mice (SCID); 1002; 15 days; Animal info (pathogen-free, 6 wks old, female, CB17, scid/scid); peptides; cancer; angiogenesis.

Q0599: M. S. Smith, *et al.* Granulocyte-Colony Stimulating Factor Reactivates Human Cytomegalovirus in a Latently Infected Humanized Mouse Model. *Cell Host & Microbe* 2010;8(3):284-291

ALZET Comments: Granulocyte-colony stimulating factor; AMD 3100; SC; Mice (NOG); 1007D; 7 days; Controls received mp w/ PBS; animal info (7-10 wks old, NOD-scid, IL2Rgc null); immunology.

Q1342: T. Shimamura, *et al.* Interleukin 13 Mediates Signal Transduction through Interleukin 13 Receptor $\alpha 2$ in Pancreatic Ductal Adenocarcinoma: Role of IL-13 Pseudomonas Exotoxin in Pancreatic Cancer Therapy. *Clinical Cancer Research* 2010;16(2):577-586

ALZET Comments: Interleukin-13; PBS; albumin, human serum; IP; Mice (SCID); 1007D; 7 days; Controls received vehicle injections; animal info (5-6 wks old, male, SCID); comparison of ip injections vs ip mp; cancer (pancreatic); "Compared with (bolus IP) administration of 50 ug/kg IL-13 cytotoxin daily for 7 consecutive days, (ALZET pumps) (infused over 7 days) significantly suppressed tumor growth (P = 0.022) from the beginning of the treatment until the end of the experiment..."



Compared with the (bolus IP) 50 ug/kg group, a significant prolonged survival time was observed in the (ALZET pump) 50 ug/kg group", pg 581.

Q1299: J. Rowe, *et al.* Compounds that target host cell proteins prevent varicella-zoster virus replication in culture, ex vivo, and in SCID-Hu mice. *Antiviral Research* 2010;86(3):276-285

ALZET Comments: Phosphonoacetic acid; roscovitine; DMSO; SC; Mice (NSG); 2001; 7 days; Controls received mp w/ vehicle; animal info (SCID-Hu, 7-8 wks old); enzyme inhibitor (cyclin-dependent kinase); 50% DMSO used; bioluminescence (IVIS 200); antiviral.

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.

Q0606: T. Kato, *et al.* Efficient delivery of liposome-mediated MGMT-siRNA reinforces the cytotoxicity of temozolomide in GBM-initiating cells. *Gene Therapy* 2010;17(11):1363-1371

ALZET Comments: RNA, small interfering; Mice (NOD/SCID); 1007D; 1 week; Animal info (6 wks old, female NOD-SCID); MGMT-siRNA/LipoTrust complex; O6-methylguanine- DNA methyltransferase; incorrectly stated 1003D pump; cancer.

Q0772: N. W. Hartman, *et al.* CXCL12-Mediated Guidance of Migrating Embryonic Stem Cell-Derived Neural Progenitors Transplanted into the Hippocampus. *PLoS One* 2010;5(12):U385-U397

ALZET Comments: AMD 3100; PBS; SC; Mice (SCID); 1004; Controls received mp w/ vehicle; animal info (8-10 wks old, B6.CB17-Prkdc scid/SzJ); tissue adhesive and wound clips used.

Q1021: S. D. Crowley, *et al.* Lymphocyte responses exacerbate angiotensin II-dependent hypertension. *American Journal of Physiology-Regulatory Integrative and Comparative Physiology* 2010;298(4):R1089-R1097

ALZET Comments: Angiotensin II; NaCl; saline; SC; Mice (SCID); 2004; 28 days; Controls received mp w/ vehicle; animal info (wt, C3H, C3H SCID, 2-4 mo old); peptides.

Q0109: K. L. Chambliss, *et al.* Non-nuclear estrogen receptor-alpha signaling promotes cardiovascular protection but not uterine or breast cancer growth in mice. *Journal of Clinical Investigation* 2010;120(7):2319-2330

ALZET Comments: Estradiol; estrogen-dendrimer conjugate; DMSO; IP; Mice (SCID); 1004; 72 hours; 28 days; Controls received mp w/ empty dendrimer; cardiovascular; cancer (breast); animal info (female, ERE-Luc reporter, 10-13 weeks old; Ex3aERKO, 8-9 weeks old; C57BL/6 Apoe^{-/-}, 6 weeks old; SCID, 8 weeks old); functionality of mp verified by serum agent levels; Estradiol Dose (6 ug/d); replacement therapy (ovariectomy; pumps replaced after 28 days); half-life (p.2321); half life of EDC = 28 hours; stability verified by (Serum evaluation of experimental and control mice); photon recording with light emission tomography (LET) system with a CCD camera; Research Diets D10001.

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.

Q0602: P. Beauparlant, *et al.* Preclinical development of the nicotinamide phosphoribosyl transferase inhibitor prodrug GMX1777. *Anti-cancer Drugs* 2009;20(5):346-354



ALZET Comments: GMX1777; NaCl; IV (jugular); Mice (nude; SCID); 2001D; 24 hours; Controls received mp w/ vehicle; animal info (BalbC nude, CB17, SCID/SCID, female); comparison of 72 h infusion pump vs 24 h mp; cancer (refractory solid tumors and lymphomas); "The 24 h infusion was the most effective administration schedule identified in mouse xenograft models" pg 352-353; cancer; chemotherapeutic.

P9251: A. H. Rosendahl, *et al.* Systemic IGF-I administration stimulates the in vivo growth of early, but not advanced, renal cell carcinoma. *International Journal of Cancer* 2008;123(6):1286-1291

ALZET Comments: Insulin-like growth factor I, recomb. human; Saline, sterile; albumin, mouse serum; SC; Mice (SCID); 1007D; 14 days; Controls received mp w/ vehicle; cancer (renal carcinoma); peptides; animal info (female, SCID CoB-17, 8-12 wks old, 20 g.).

P9121: Y. W. Qiang, *et al.* Wnt3a signaling within bone inhibits multiple myeloma bone disease and tumor growth. *Blood* 2008;112(2):374-382

ALZET Comments: Gene, Wnt3a, recomb.; Bone; Mice (SCID); 1004; 4 weeks; Controls received mp w/ PBS; animal info (Myelomatous SCID-hu); tissue perfusion (myelomatous bone); Wnt3a is a human gene; ALZET pump was "directly connected to the open side of the implanted bone, allowing continual exposure of the myelomatous bone to rWnt3a".

P8811: S. Nagano, *et al.* Cancer cell death enhances the penetration and efficacy of oncolytic herpes simplex virus in tumors. *Cancer Research* 2008;68(10):3795-3802

ALZET Comments: Doxycycline; SC; Mice (SCID); 3 days; Controls received mp w/ saline; cancer (mammary carcinoma); animal info (SCID).

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 GTPases); cancer (acute myeloid leukemia); multiple pumps per animal (2); animal info (NOD/SCID, irradiated);.

P8953: A. Knedla, *et al.* The therapeutic use of osmotic minipumps in the severe combined immunodeficiency (SCID) mouse model for rheumatoid arthritis. *Annals of the Rheumatic Diseases* 2008;68(1):124-129

ALZET Comments: Interleukin-10; interleukin-1 receptor antagonist; Saline; DMSO; SC; Mice (SCID); 2004; 40 days; Controls received mp w/ vehicle; functionality of mp verified by plasma levels; good methods (p.125); peptides; animal info (female, SCID, 4-5 wks old); Rheumatoid arthritis; pump and technique schematics p. 125; stability (with an excellent description of methods) was verified for 40 days @ 37C; 50% DMSO used; "... the application of proteins via osmotic pumps is an affective tool to evaluate the effects of cytokines and inhibitors in vitro." p. 128.

P8302: X. F. Zhang, *et al.* Continuous administration of the three thrombospondin-1 type 1 repeats recombinant protein improves the potency of therapy in an orthotopic human pancreatic cancer model. *Cancer Letters* 2007;247(1):143-149

ALZET Comments: Thrombospondin-1, three type 1 repeats; PBS; SC; Mice (SCID); 1007D; 7 days; Controls received mp w/ vehicle; comparison of IP injections vs. mp; stability verified by incubation in pump, 7 days; cancer (pancreatic); peptides; animal info (female, SCID, 4-6 weeks old); antiangiogenesis therapy; 3TSR; "Continuous administration of 3TSR reduced dosage and improved therapeutic potency." p. 146.

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).

P8965: H. Matsuno, *et al.* Requirement of methotrexate in combination with anti-tumor necrosis factor alpha therapy for adequate suppression of osteoclastogenesis in rheumatoid arthritis. *Journal of Rheumatology* 2007;34(12):2326-2333



ALZET Comments: Infliximab; immunoglobulin G, human; SC; Mice (SCID); 2 weeks; Controls received mp w/ human IgG; immunology; animal info (SCID-HuRAG-pit, 6-7 wks old; TNF-alpha inhibitor.

P8992: D. Dreau, *et al.* Inhibitory effects of fusarochromanone on melanoma growth. *Anti-cancer Drugs* 2007;18(8):897-904

ALZET Comments: Fusarochromanone; PBS; IP; Mice (SCID); 2004; 17 days; Controls received mp w/ vehicle; comparison of IP injections vs. mp; pumps replaced after 7 days; cancer (melanoma); animal info (female, BALB/c SCID, 20 g.).

Q0501: C. K. Donawho, *et al.* ABT-888, an orallyactive poly(ADP-ribose) polymerase inhibitor that potentiates DNA-damaging agents in preclinical tumor models. *Clinical Cancer Research* 2007;13(9):2728-2737

ALZET Comments: ABT-888; Saline; SC; Mice (nude; SCID); 2002; 14 days; Controls received mp w/ vehicle; dose-response (pg 2732, fig. 2); cancer; animal info (C57BL/6, SCID); chemotherapeutic; "ABT-888 administered... via (minipump) not only potentiated cyclophosphamide... but also caused tumor regression, whereas the cyclophosphamide monotherapy only slightly delayed tumor growth." pg 2733.

P8928: M. Tejada, *et al.* A comparison of the tumor growth inhibitory effect of intermittent and continuous administration of the somatostatin structural derivative TT-232 in various human tumor models. *Anticancer Research* 2006;26(4B):3011-3015

ALZET Comments: TT-232; Water, distilled; acetic acid; sodium acetate; mannitol; SC; Mice (SCID); 2002; 14, 28 days; Comparison of IP, SC injections vs. SC mp; stability verified by 3 weeks at 37 degree Celsius by HPLC analysis for agent + degradation products; cancer (epidermoid carcinoma, breast carcinoma); peptides; animal info (female, SCID, 22-24 g.); somatostate structural derivative; "The comparative experiments (injection and infusion) confirmed that continuous treatments and long-term administration were associated with the best treatment responses" (p. 3014); "Continuous infusion administration of TT-232 significantly inhibited the growth of the tumor when compared with intraperitoneal (ip) and subcutaneous (sc) intermittent injection treatments." (p. 3011).

P7965: O. A. O'Connor, *et al.* The combination of the proteasome inhibitor bortezomib and the bcl-2 antisense molecule oblimersen sensitizes human B-cell lymphomas to cyclophosphamide. *Clinical Cancer Research* 2006;12(9):2902-2911

ALZET Comments: Oblimersen; Saline; SC; Mice (SCID); 2004; 28 days; Stress/adverse reaction: (see pg. 2907), infection (pumps are provided sterile); cancer (lymphoma); animal info (5-7 weeks old, SCID); xenograft; bcl-2 antisense molecule.

P8927: J. H. Chen, *et al.* Effects of COX-2 inhibitor on growth of human gastric cancer cells and its relation to hepatocyte growth factor. *Cancer Letters* 2006;239(2):263-270

ALZET Comments: Hepatocyte growth factor; IP; Mice (SCID); 28 days; Controls received sham operation; pumps replaced after 14 days; cancer (gastric); peptides; post op. care (streptomycin, penicillin); animal info (male, SCID, 6-8 wks old, 20-25 g.).

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.

P7460: S. Roychowdhury, *et al.* IL-15 but not IL-2 rapidly induces lethal xenogeneic graft-versus-host disease. *Blood* 2005;106(7):2433-2435

ALZET Comments: Interleukin-15, recomb. human; interleukin-2, recomb. human; PBS; albumin, human; SC; Mice (SCID); 1007D; 10 days; Controls received mp w/ vehicle; immunology; animal info (female, CB17, hu-PBL-SCID, 8-12 weeks old).

P7580: L. Poluektova, *et al.* Macrophage-induced inflammation affects hippocampal plasticity and neuronal development in a murine model of HIV-1 encephalitis. *Glia* 2005;52(4):344-353

ALZET Comments: Uridine, bromodeoxy-; Saline, physiological; CSF/CNS; Mice (SCID); 2004; 7, 28 days; Animal info (SCID, 4 wk old, male).



P7655: M. Ito, *et al.* Stem cells in the hair follicle bulge contribute to wound repair but not to homeostasis of the epidermis. *Nature Medicine* 2005;11(12):1351-1354

ALZET Comments: Ganciclovir; Saline, sterile; SC; Mice (SCID); 2002; 2 weeks; Controls received mp w/ vehicle; comparison of SC injections vs. mp; animal info (Krt 1-15-HSV-TK transgenic skin grafted onto CB171 cr-scid/scid).

Q6865: M. Takamura, *et al.* Inhibition of intrahepatic metastasis of human hepatocellular carcinoma by Rho-associated protein kinase inhibitor Y-27632. *Hepatology* 2001;33(3):577-81

ALZET Comments: Y-27632; PBS; IP; Mice; 1002; 2 weeks; Dose (10mg in 100µl); Controls received mp w/ vehicle; animal info (Male homozygous C.B-17 scid/scid mice); enzyme inhibitor (p160ROCK); cancer (Hepatocellular Carcinoma);.

P8474: G. Klement, *et al.* Continuous low-dose therapy with vinblastine and VEGF receptor-2 antibody induces sustained tumor regression without overt toxicity. *Journal of Clinical Investigation* 2000;105(8):15-24

ALZET Comments: Vinblastine sulfate; Saline; SC; Mice (SCID); 3 weeks; Controls received IP injections; comparison of IP injections vs. mp; no stress (see pg. R19); cancer (neuroblastoma); toxicology; animal info (SCID, 4-6 weeks old, 15-20 grams); IP bolus given at start of mp treatment.

P3587: R. Datema, *et al.* Antiviral efficacy in vivo of the anti-human immunodeficiency virus bicyclam SDZ SID 791 (JM 3100), an inhibitor of infectious cell entry. *Antimicrob. Agents Chemother* 1996;40(3):750-754

ALZET Comments: SID 791; Saline, sterile; SC; Mice (SCID); mice; 2002; no duration posted; functionality of mp verified by plasma levels; dose-response; comparison of sc injections vs. mp; immunology; SID 791 is a bicyclam which inhibits HIV replication in vivo; human fetal liver & thymus transplanted into SCID mice.