

References on the Long-Term Administration of Agents to Mice  
Using the ALZET<sup>®</sup> Osmotic Pumps

P7875 Lund AK, Goens MB, Nunez BA, Walker MK. Characterizing the role of endothelin-1 in the progression of cardiac hypertrophy in aryl hydrocarbon receptor (AhR) null mice. *TOXICOLOGY AND APPLIED PHARMACOLOGY* 2006; 212(2):127-135. >>> BQ-123; Saline; SC; Mice; 2004; 7, 28, 58 days; Controls received mp w/ vehicle; long-term study; pumps replaced on day 29; cardiovascular; peptides; animal info (C57B6N, AhR -/-, wt, 2 month old, 5 month old, 20-30g.); ET-A receptor antagonist.

P7809 Ma J, Weisberg A, Griffin JP, Vaughan DE, Fogo AB, Brown NJ. Plasminogen activator inhibitor-1 deficiency protects against aldosterone- induced glomerular injury. *Kidney International* 2006; 69(6):1064-1072. >>> Aldosterone, D-; DMSO; SC; Mice; 2004; 12 weeks; Controls received mp w/ vehicle; replacement therapy (uninephrectomy); long-term study; pumps replaced every 4 weeks; cardiovascular; animal info (male, C57BL/6J wt or PAI-1(-/-), 8-10 wk old, 27g.); 3.6% DMSO; nephrology.

P7618 Park JH, Gimbel DA, GrandPre T, Lee JK, Kim JE, Li WW et al. Alzheimer precursor protein interaction with the Nogo-66 receptor reduces amyloid-beta plaque deposition. *J Neurosci* 2006; 26(5):1386-1395. >>> Nogo-66 receptor (310) ecto-Fc; immunoglobulin G, rat; PBS; CSF/CNS; Mice (transgenic); 2004; 56 days; Controls received mp w/ rat IgG; long-term study; pumps replaced after 28 days; Alzet Brain Infusion Kit 2 used; brain tissue distribution; cyanoacrylate adhesive; neurodegenerative (Alzheimer's disease) animal info (C57BL/6J, APP<sup>swe</sup>/PSEN or WT, 6-8 months old).

P7756 Shibuya K, Kanasaki K, Isono M, Sato H, Omata M, Sugimoto T et al. N-acetylseryl-aspartyl-lysyl-proline prevents renal insufficiency and mesangial matrix expansion in diabetic db/db mice. *Diabetes* 2005; 54(3):838-845. >>> Peptide, AcSDKP; Balanced salt solution; SC; Mice; 2004; 8 weeks; Controls received mp w/ vehicle, or control peptide; functionality of mp verified by plasma AC-SDKP levels; replacement therapy (diabetes); long-term study; pumps replaced at 4 weeks; no stress (see pg. 839, 843); peptides; animal info (male, db/db, db/m, 10 wk. old).

P7750 Suzuki J, Iwai M, Li Z, Li JM, Min LJ, Ide A et al. Effect of combination of calcium antagonist, azelnidipine, and AT<sub>1</sub> receptor blocker, olmesartan, on atherosclerosis in apolipoprotein E-deficient mice. *J Hypertens* 2005; 23(7):1383-1389. >>> Olmesartan; IP; Mice; 1002; 10 weeks; Dose-response (fig.1); long-term study; pumps replaced every 2 weeks; cardiovascular; animal info (adult, male, ApoE -1-, 6 wk. old, 25-30g.).

P7633 Bao LH, Osawe I, Haas M, Quigg RJ. Signaling through up-regulated C3a receptor is key to the development of experimental lupus nephritis. *J Immunol* 2005; 175(3):1947-1955. >>> C3aR; DMSO; Mice; 2001; 6 weeks; Controls received mp w/ vehicle; long-term study; pumps replaced every week; half-life (p. 1948), 1.5 hours; animal info (BALB/c, male); 50% DMSO used.

P7621 Narai H, Nagano I, Ilieva H, Shiote M, Nagata T, Hayashi T et al. Prevention of spinal motor neuron death by insulin-like growth factor-1 associating with the signal transduction systems in SOD(G93A) transgenic mice. *J Neurosci Res* 2005; 82(4):452-457. >>> Insulin-like growth factor I, recomb. human; CSF, artificial; CSF/CNS (intrathecal, subarachnoid space, lumbar); Mice (transgenic); 2004; 5-10 weeks; Controls received mp w/ vehicle; dose-response (fig 1); long-term study; pumps replaced every 4 weeks; neurodegenerative (Amyotrophic Lateral Sclerosis); animal info (C57BL/6J, female).

P7616 Eiden S, Simon E, Schmidt I. Dose-related steady states of fat loss in long-term leptin-treated ob/ob mice: Leptin resistance or desensitization versus counterregulatory signaling. *JOURNAL OF COMPARATIVE PHYSIOLOGY B-BIOCHEMICAL SYSTEMIC AND ENVIRONMENTAL PHYSIOLOGY* 2005; 175(7):487-497. >>> Leptin, recomb. murine His 6-tagged; Saline; SC; Mice; 1002; 55, 60 days; Controls received mp w/ agent and were 2 months old; functionality of mp verified by residual volume; dose-response (fig 1); long-term study; pumps replaced every 15 days; no stress (see pg.488); peptides; animal info (C57B1/6J, male, ob/ob; 2 or 5 months old 33 g, 58 g).

P7607 Fernandez AM, Carro EM, Lopez-Lopez C, Torres-Aleman I. Insulin-like growth factor I treatment for cerebellar ataxia: Addressing a common pathway in the pathological cascade? *BRAIN RESEARCH REVIEWS* 2005; 50(1):134-141. >>> Insulin-like growth factor I; SC; CSF/CNS; Rat; mice; 1 month; 2 weeks; Peptides; neurodegenerative (cerebellar ataxia); Review, pg. 138, ref #21; "This long-term delivery system increases therapeutically available IGF-1 at least 30-fold as compared to single subcutaneous injections" (p. 138).

P7602 Iwai M, Chen R, Li Z, Shiuchi T, Suzuki J, Ide A et al. Deletion of angiotensin II type 2 receptor exaggerated atherosclerosis in apolipoprotein E-null mice. *Circulation* 2005; 112(11):1636-1643. >>> Valsartan; IP; Mice; 1002; 10 weeks; Controls received no treatment; long-term study; cardiovascular; animal info (male); AT1 receptor blocker.

P7575 Zhan GX, Serrano F, Fenik P, Hsu R, Kong LH, Pratico D et al. NADPH oxidase mediates hypersomnolence and brain oxidative injury in a murine model of sleep apnea. *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE* 2005; 172(7):921-929. >>> Apocynin; DMSO; SC; Mice; 1002; 8 weeks; Controls received mp w/ vehicle or PBS; long-term study; pumps replaced; enzyme inhibitor (NADPH oxidase); animal info (male, C57BL/6J, 10 wk old).

P7554 Lautrette A, Li SQ, Alili R, Sunnarborg SW, Burtin M, Lee DC et al. Angiotensin II and EGF receptor cross-talk in chronic kidney diseases: a new therapeutic approach. *Nature Medicine* 2005; 11(8):867-874. >>> Angiotensin II; Saline; SC; Mice; mice (transgenic); 2004; 2 months; 7 days; Controls received mp w/ vehicle; replacement therapy (nephrectomy); long-term study; pumps replaced at 1 month; peptides; animal info (C57Bl6, female, 1 week old).

P7476 Lund AK, Peterson SL, Timmins GS, Walker MK. Endothelin-1-mediated increase in reactive oxygen species and NADPH oxidase activity in hearts of aryl hydrocarbon receptor (AhR) null mice. TOXICOLOGICAL SCIENCES 2005; 88(1):265-273. >>> BQ123; Saline; SC; Mice; 2004; 28, 58 days; Controls received mp w/ vehicle; long-term study; pumps replaced on day 29; no stress (see pg. 266); cardiovascular; animal info (C57BL6N, 8 wks old); ET-A receptor antagonist.

P7473 Minhas KM, Khan SA, Raju SVY, Phan AC, Gonzalez DR, Skaf MW et al. Leptin repletion restores depressed beta-adrenergic contractility in ob/ob mice independently of cardiac hypertrophy. JOURNAL OF PHYSIOLOGY-LONDON 2005; 565(2):463-474. >>> Leptin, recomb. mouse; SC; Mice; 1002; 28 days; Functionality of mp verified by plasma agent levels; long-term study; pumps replaced after 14 days; cardiovascular; peptides; animal info (C57BL/6J wt, ob/ob, 6 wk old).

P7401 Donners MMPC, Bot I, De Windt LJ, van Berkel TJC, Daemen MJAP, Biessen EAL et al. Low-dose FK506 blocks collar-induced atherosclerotic plaque development and stabilizes plaques in ApoE<sup>-/-</sup> mice. AMERICAN JOURNAL OF TRANSPLANTATION 2005; 5(6):1204-1215. >>> FK-506; PBS; SC; Mice; 2004; 4,8 weeks; Controls received mp w/ vehicle; plasma levels taken; long-term study; pumps replaced every 4 weeks.

P7341 Zhou Y, Chen R, Catanzaro SE, Hu LF, Dansky HM, Catanzaro DF. Differential effects of angiotensin II on atherogenesis at the aortic sinus and descending aorta of apolipoprotein-E-deficient mice. Am J Hypertens 2005; 18(4):486-492. >>> Angiotensin II; Saline; SC; Mice (knockout); 2004; 8-32 weeks; Controls received mp w/ vehicle; long-term study; pumps replaced every 4 weeks; cardiovascular; peptides.

P7328 Kharitononkov A, Shiyanova TL, Koester A, Ford AM, Micanovic R, Galbreath EJ et al. FGF-21 as a novel metabolic regulator. J Clin Invest 2005; 115(6):1627-1635. >>> Fibroblast growth Factor-21; Saline; SC; Mice; 8 weeks; Controls received mp w/ vehicle; replacement therapy (diabetic, db/db); comparison of SC injections vs. mp (minipump used to study mitogenicity during longer exposure); long-term study.

P7245 Mashiko S, Ishihara A, Gomori A, Moriya R, Ito M, Iwaasa H et al. Antiobesity effect of a melanin-concentrating hormone 1 receptor antagonist in diet-induced obese mice. Endocrinology 2005; 146(7):3080-3086. >>> Melanin-concentrating hormone 1 receptor antagonist; Propylene glycol; CSF, artificial; CSF/CNS; CSF/CNS (third ventricle); Mice; 1007D; 2002; 2004; 3, 8 weeks; Controls received mp w/ vehicle; long-term study; pumps replaced after 1 or 4 weeks of vehicle; ALZET brain infusion kit used; peptides; cyanoacrylate adhesive; post op. care (cefamedin); DEXA; cannula placement confirmed by Evans blue dye injection; animal info (C57BL/6); pumps used in lateral ventricle for one group of animals, and third ventricle for others. Third ventricle group used Plastics One cannulae.

P7184 Mathian A, Weinberg A, Gallegos M, Banchereau J, Koutouzov S. IFN-alpha induces early lethal lupus in preautoimmune (New Zealand black x New Zealand White)F<sub>1</sub> but not in BALB/c mice<sup>1</sup>. J Immunol 2005; 174(5):2499-2506. >>> Interferon,

mouse; PBS; BSA; SC; Mice; 1002; 8-10 weeks; Controls received mp w/ vehicle; long-term study; pumps replaced every 2 weeks; immunology.

P7053 Zucker B, Ludin DE, Gerds TA, Luecking CH, Landwehrmeyer GB, Feuerstein TJ. Gabapentin-lactam, but not gabapentin, reduces protein aggregates and improves motor performance in a transgenic mouse model of Huntington's disease. NAUNYN-SCHMIEDEBERG ARCHIVES OF PHARMACOLOGY 2004; 370(2):131-139. >>> Gabapentin-lactam; gabapentin; Isobutanol; saline; SC; Rat; mice (transgenic); 2002; 4-8 weeks; Controls received mp w/ vehicle, or no treatment; functionality of mp verified by residual volume; long-term study; pumps replaced every 2 weeks; no stress (see pg. 137); half-life (pg. 134, 136) approx. 2 hours; "The continuous application of both GBP-L and of GBP by ALZET pumps have maintained the plasma levels so that the actions of these drugs at their targets in the CNS were not interrupted due to their rather short half-lives." (pg. 138); neurodegenerative (huntington's disease).

P7005 Duncan RE, El-Sohehy A, Archer MC. Mevalonate promotes the growth of tumors derived from human cancer cells in vivo and stimulates proliferation in vitro with enhanced cyclin-dependent kinase-2 activity. J Biol Chem 2004; 279(32):33079-33084. >>> Mevalonate; SC; Mice (nude); 2004; 13 weeks; Controls received mp w/ vehicle, or isotonic saline; long-term study; pumps replaced every 28 days; cancer (MDA-MB-435); MDA-MB-435 is a highly malignant human cancer of either breast adenocarcinoma or occult melanoma (origin uncertain); cancer (breast, melanoma, adenocarcinoma).

P6807 Christie PE, Jonas M, Tsai CH, Chi EY, Henderson WJ. Increase in laminin expression in allergic airway remodelling and decrease by dexamethasone. Eur Respir J 2004; 24(1):107-115. >>> Dexamethasone; SC; Mice; 2004; 50 days; Controls received mp w/ saline; long-term study; pumps replaced after 28 days; no stress (see pg. 110); Asthma.

P6794 Pittner RA, Moore CX, Bhavsar SP, Gedulin BR, Smith PA, Jodka CM et al. Effects of PYY[3-36] in rodent models of diabetes and obesity. Int J Obes 2004; 28(8):963-971. >>> Peptide YY (3-36); PBS; SC; Rat; mice; 2004; 2ML4; 4, 8 weeks; Controls received mp w/ vehicle; dose-response (fig. 1); comparison of IP injections vs. mp; long-term study; pumps replaced after 4 weeks; diabetes; obesity; peptide.

P6774 Bello L, Lucini V, Costa F, Pluderi M, Giussani C, Acerbi F et al. Combinatorial administration of molecules that simultaneously inhibit angiogenesis and invasion leads to increased therapeutic efficacy in mouse models of malignant glioma. Clinical Cancer Research 2004; 10(13):4527-4537. >>> PEX, recomb. human; PF-4/CTF; P4-4/DLR; vascular endothelial growth inhibitor, cyclo-; Water, sterile; SC; Mice; mice (nude); 2004; 28, 112, 140 days; Dose-response; long-term study; pumps replaced every 28 days; no stress (see pg. 4532); cancer (glioma); peptides; "The treatment was always very well tolerated without the occurrence of any side effects." (p. 4532); angiogenesis inhibitor.

P6721 Hashimoto N, Maeshima Y, Satoh M, Odawara M, Sugiyama H, Kashihara N et al. Overexpression of angiotensin type 2 receptor ameliorates glomerular injury in a mouse remnant kidney model. American Journal of Physiology-Renal Physiology 2004;

286(3):F516-F525. >>> PD123319; SC; Mice; 2002; 6 weeks; Long-term study; pumps replaced every two weeks; AT<sub>2</sub>R specific antagonist.

P6477 Browne SE, Roberts LI, Dennery PA, Doctrow SR, Beal MF, Barlow C et al. Treatment with a catalytic antioxidant corrects the neurobehavioral defect in ataxia-telangiectasia mice. *Free Radic Biol Med* 2004; 36(7):938-942. >>> EUK-189; Mannitol; SC; Mice; 2004; 56, 84 days; Controls received mp w/ vehicle; long-term study; pumps replaced every 28 days; no stress (see pg.941); cancer (thymoma); EUK-189 is a synthetic catalytic antioxidant w/ both catalase & superoxide dismutase activities; neurodegenerative (ataxia telangiectasia).

P6497 Tejada M, Gaal D, Barna K, Csuka O, Keri G. The antitumor activity of the somatostatin structural derivative (TT-232) on different human tumor xenografts. *Anticancer Res* 2003; 23(5A):4061-4066. >>> TT-232; Acetic acid; sodium acetate; water, distilled; mannitol; SC; Mice; 2002; 14,28 days; Dose-response (fig.2); comparison of daily SC injections vs. mp; pumps replaced at day 14; stability verified over 3 weeks; cancer (prostate, breast, colon, melanoma, leukemia); peptides; "a significant antitumor activity of TT-232 was observed following long-term infusion using osmotic minipumps" (p. 4064).

P6100 Feeney SJ, Austin L, Bennett TM, Kurek JB, Jean-Francois MJB, Muldoon C et al. The effect of leukaemia inhibitory factor on SOD1 G93A murine amyotrophic lateral sclerosis. *Cytokine* 2003; 23(4-5):108-118. >>> Leukemia inhibitory factor; CSF/CNS (intrathecal); Mice (transgenic); 2004; 13 weeks; Comparison of SC injections vs. IT mp; long-term study; pumps replaced every 4 weeks; ALZET brain infusion kit 1 used (per Dr. Feeney); used the BIK for the IT infusion; glued and sutured the cannula in place; "All mice that entered the study recovered from the surgical procedure and appeared to have no adverse effects." (p. 111); neurodegenerative (Amyotrophic Lateral Sclerosis).

P6025 Saraff K, Babamusta F, Cassis LA, Daugherty A. Aortic dissection precedes formation of aneurysms and atherosclerosis in angiotensin II-infused, apolipoprotein E-deficient mice. *ARTERIOSCLEROSIS THROMBOSIS AND VASCULAR BIOLOGY* 2003; 23(9):1621-1626. >>> Angiotensin II; Saline; SC; Mice (knockout); 2004; 56 days; Controls received mp w/ vehicle; long-term study; pumps replaced every 4 weeks; cardiovascular; peptides.

P5946 Zilberberg L, Shinkaruk S, Lequin O, Rousseau B, Hagedorn M, Costa F et al. Structure and inhibitory effects on angiogenesis and tumor development of a new vascular endothelial growth inhibitor. *J Biol Chem* 2003; 278(37):35564-35573. >>> CBO-p11; PBS; SC; Mice (nude); 2004; 28,58 days; Controls received mp w/ vehicle; long-term study; pumps replaced every 28 days for the long-term study; cancer (glioma); CBO-p11 is a cyclo-VEGI inhibitor; angiogenesis inhibitor.

P5936 Liu RL, Liu IY, Bi XN, Thompson RF, Doctrow SR, Malfroy B et al. Reversal of age-related learning deficits and brain oxidative stress in mice with superoxide dismutase/catalase mimetics. *PROCEEDINGS OF THE NATIONAL ACADEMY OF*

SCIENCES OF THE UNITED STATES OF AMERICA 2003; 100(14):8526-8531. >>> Euk-189; euk-207; Mannitol; water; SC; Mice; 2004; 3 months; Controls received mp w/ vehicle; long-term study; pumps replaced every 28 days in same location; pumps primed for >40 hours in 5% mannitol; eukarion is a synthetic catalytic scavenger of reactive oxygen species; stress/adverse reaction: in 10% of mice, the pumps were replaced on the other side of hip area due to skin damage of original site of implantation; behavioral study.

P5819 Giussani C, Carrabba G, Pluderi M, Lucini V, Pannacci M, Caronzolo D et al. Local intracerebral delivery of endogenous inhibitors by osmotic minipumps effectively suppresses glioma growth in vivo. *Cancer Res* 2003; 63(12):2499-2505. >>> Platelet factor-4; MMP-2 (hemopexin fragment); PBS; SC; CSF/CNS (intratumoral); Mice; 2004; 28 or 94 days; Controls received mp w/ PBS; tissue perfusion (tumor); dose-response (p.2502); comparison of IP injections SC systemic mp infusion vs. local intracranial mp infusion; long-term study; pumps replaced after 28 days in some groups; stability verified by in vitro assay; cancer (glioma); Angiogenesis inhibitors; COOH terminal fragment of PF-4 used; In vitro activity of agents confirmed for up to 16 days; "In conclusion, our data demonstrates that local intracerebral delivery of endogenous inhibitors by osmotic minipumps is a very effective modality for the treatment of aggressive tumors..." (p.2505); tissue perfusion (tumor).

P5726 Eder IE, Hoffmann J, Rogatsch H, Schafer G, Zopf D, Bartsch G et al. Inhibition of LNCaP prostate tumor growth in vivo by an antisense oligonucleotide directed against the human androgen receptor. *Cancer Gene Therapy* 2003; 9(2):117-125. >>> Oligonucleotide, antisense; Water, distilled; SC; Mice (nude); 7 weeks; Controls received mp w/ vehicle; long-term study, pumps replaced every two weeks; no stress (see pg. 122); cancer (prostate); antisense; pumps implanted SC in the vicinity of tumors; ODN w/ specificity to the androgen receptor; "...mice did not show any reaction on the subcutaneously installed ALZET diffusion pumps. These were chosen to guarantee a continuous systemic administration of oligonucleotides, a commonly used method for antisense treatment in vivo." (p 122).

P5890 Gregorevic P, Plant DR, Leeding KS, Bach LA, Lynch GS. Improved contractile function of the mdx dystrophic mouse diaphragm muscle after insulin-like growth factor-I administration. *Am J Pathol* 2002; 161(6):2263-2272. >>> Insulin-like growth factor; HCL; Saline; SC; Mice; 1002; 8 weeks; Functionality of mp verified by residual volume; long-term study; pumps replaced after 2 weeks; no stress (see pg. 2264); good methods p. 2264; muscular dystrophy; partially dipped in paraffin wax to achieve a pumping rate of 0.125 ul/hr for 28 days.

P4775 Weiss D, Kools JJ, Taylor WR. Angiotensin II-induced hypertension accelerates the development of atherosclerosis in ApoE-deficient mice. *Circulation* 2001; 103:448-454. >>> Angiotensin II; Norepinephrine; Water; Sodium chloride; Acetic acid; SC; mice; 1002; 4 or 8 weeks; Functionality of mp verified by plasma angiotensin levels; long-term study, pumps replaced 4 to 8 week study; vehicle solution was 0.15 M NaCl, .01 N acetic acid.

P4567 Rafael J, Herling AW. Leptin effect in *ob/ob* mice under thermoneutral conditions depends not necessarily on central satiation. *Am J Physiol Regulatory Integrative Comp Physiol* 2000; 278:R790-R795. >>> Leptin; PBS; SC; Mice; 1002; 15-75 days; Controls received mp w/vehicle; functionality of mp verified by plasma levels; long-term study, pumps replaced every 2 weeks; peptides.

P4528 Maruno K, Absood A, Said SI. Vasoactive intestinal peptide inhibits human small-cell lung cancer proliferation *in vitro* and *in vivo*. *Proc Natl Acad Sci* 1998; 95:14373-14378. >>> Vasoactive intestinal peptide; forskolin; PBS; DMSO; SC; Mice (nude); 2002; 8 weeks; Controls received mp w/PBS; dose-response (pg. 14376-14377); long-term study, pumps replaced after 2 weeks; cancer (lung); multiple pumps per animal (2) in some animals; "For systemic delivery of peptides *in vivo*, constant infusion by osmotic pumps increases efficacy and reduces side effects relative to bolus injection." (p. 14377).

P4466 Fehniger TA, Carson WE, Mrózek E, Caligiuri MA. Stem cell factor enhances interleukin-2-mediated expansion of murine natural killer cells *in vivo*. *Blood* 1997; 90(9):3647-3653. >>> Interleukin-2; PBS; Serum, syngeneic mouse; SC; Mice; 8 weeks; Controls received mp w/vehicle; functionality of mp verified by plasma levels; long-term study, pump replaced every 10 days; immunology; peptides.

P3746 Walduck AK, Opdebeeck JP. Effect of the profile of antigen delivery on antibody responses in mice. *J Controlled Release* 1997; 43:75-80. >>> BSA; PBS; SC; mice; 2002; 4, 8, 12 weeks; controls received PBS injections; comparison of sc injections vs. mp; long-term study, pumps replaced every 2 weeks; immunology.

P3610 Fisher WE, Muscarella P, O'Dorisio TM, O'Dorisio MS, Kim JA, Doran TA et al. Expression of the somatostatin receptor subtype-2 gene predicts response of human pancreatic cancer to octreotide. *Surgery* 1996; 120:234-241. >>> Octreotide; Saline; SC; mice (nude); 2002; 36 days; controls received mp w/ saline; long-term study, pumps replaced every two weeks; cancer; pumps implanted on flank opposite tumor.

P3823 Huang Y, Snyder R, Kligshiteyn M, Wickstrom E. Prevention of tumor formation in a mouse model of burkitt's lymphoma by 6 weeks of treatment with anti-c-myc DNA phosphorothioate. *Molec Medicine* 1995; 1(6):647-658. >>> Oligodeoxynucleotide, phosphorothioate antisense; Saline; SC; mice; 2002; 6 weeks; Controls received mp w/saline or scrambled DNA; comparison of pellets and SC injections vs. mp; long-term study, pumps replaced every 2 weeks; "Total amount of DNA in the pellets and the rate of release from each pellet varied widely and unpredictably." (pg. 649); cancer; toxicology; antisense.

P2803 Carballido JM, Schols D, Namikawa R, Zurawski S, Zurawski G, Roncarolo M-G et al. IL-4 induces human B cell maturation and IgE synthesis in SCID-hu mice. *J Immunol* 1995; 155:4162-4170. >>> Interleukin-4; PBS; SC; mice (SCID); 2002; no duration posted; long-term study, pumps replaced; immunology; human IL-4 used.

P3679 Steppuhn KG, Turski L. Diazepam dependence prevented by glutamate antagonists. *Proc Natl Acad Sci* 1993; 90:6889-6893. >>> CPP; NBQX; GYKI 52466; IP; mice; 2002; 1003D; 14 days, 72 hours; controls received mp w/ vehicle; agents are glutamate antagonists; 4 pumps (1003D) per mouse implanted; NBQX is an AMPA antagonist; article states "NBQX has not been used for long-term administration by means of osmotic minipumps because of insufficient solubility" (p. 6890); tolerance; dependence.

P2302 Bell SA, Hobbs MV, Rubin RL. Isotype-restricted hyperimmunity in a murine model of the toxic oil syndrome. *J Immunol* 1992; 148:3369-3376. >>> Oleic acid anilide; Saline; IP; mice; 2002; 6 weeks; Long-term study, pumps replaced every 2 weeks; immunology; toxicology; SC pump connected to IP catheter; fatty acid.

P1852 Dauvois S, Geng C-S, Levesque C, Merand Y, Labrie F. Additive inhibitory effects of an androgen and the antiestrogen EM-170 on estradiol-stimulated growth of human ZR-75-1 breast tumors in athymic mice. *Cancer Res* 1991; 51:3131-3135. >>> EM-170; Progesterone acetate, medroxy-; DMSO; mice; 40 days; replacement therapy (ovariectomy); long-term study, pumps replaced every 20 days; cancer; antiestrogen.

P1639 Dennis JW, Koch K, Yousefi S, VanderElst I. Growth inhibition of human melanoma tumor xenografts in athymic nude mice by swainsonine. *Cancer Res* 1990; 50:1867. >>> Swainsonine; Saline; SC; mice (nude); 2002; 6 weeks; dose-response; long-term study, pump replaced every 2 weeks; cancer.

S0777 Redding, T. W. and Schally, A. V. Suppression of the pituitary-gonadal axis in nude mice by continuous administration of LHRH agonists and antagonists. Presented at the 71st Annual Meeting of the Endocrine Society, June 21-24, Seattle, WA 1989;192. >>> Luteinizing HRH antagonist; mice (nude); no duration posted; agents are SB-30 and SB-75, pump model not stated; comparison of sc injections vs. mp infusion; long-term study; pump replaced every 2 weeks.

S0791 Rubin, R. L. and Aucoin, D. P. Murine model for procainamide-induced autoimmunity. *American Rheumatism Association Abstracts*, 52nd Annual Meeting, May 23-28, Houston, TX 1988;A10. >>> Procainamide; IP; mice; 6 weeks; pump model not stated; half-life; functionality of mp verified; immunology; long-term study; pump replaced at 3 weeks.

P0734 Potter GK, Mohamed AN, Dracopoli NC, Groshen SLB, Shen RN, Moore MAS. Action of 1,25-(OH)<sub>2</sub>D<sub>3</sub> in nude mice bearing transplantable human myelogenous leukemic cell lines. *Exp Hematol* 1985; 13:722-732. >>> Vitamin D<sub>3</sub>, 1,25-dihydroxy-; Propylene glycol; SC; mice (nude); 2001; 70 days; mp replaced periodically; long-term study; comparison of various agents iv vs. mp infusion; cancer chemotherapy.

P0667 Dembinski TC, Leung CKH, Shiu RPC. Evidence for a novel pituitary factor that potentiates the mitogenic effect of estrogen in human breast cancer cells. *Cancer Res* 1985; 45(7):3083-3089. >>> Growth hormone, human; Growth hormone, ovine;

Prolactin, ovine; mice; 49-56 days; comparison of daily sc injec. vs. mp infusion; comparison of agents effects; long-term study; cancer; peptides.

P1216 Colley DG, Ahn M-H. [Immunological responses by soluble egg antigen of *Schistosoma mansoni* in mice]. *Korean J Parasitol* (Korean, English abstract) 1984; 22(2):203-208. >>> Antigens, soluble egg; HGG; IP; mice; 9 weeks; pump model not stated; controls received mp w/HGG; Korean paper with English abstract; immunology; long-term study; pump replaced every 2 weeks.