References on the Administration of Corticosterone Using ALZET® Osmotic Pumps

Q8934: R. J. Perry, *et al.* Leptin mediates postprandial increases in body temperature through hypothalamus-adrenal medulla-adipose tissue crosstalk. Journal of Clinical Investigation 2020;130(4):2001-2016
Agents: Corticosterone **Vehicle:** Not Stated; **Route:** CSF/CNS (third ventricle); **Species:** Rat;
ALZET Comments: Dose (5 mg/d, 20 mg/d); animal info (Male Sprague-Dawley rats, approximately 250 g); dependence;

Q8365: R. J. Perry, *et al.* Leptin's hunger-suppressing effects are mediated by the hypothalamic-pituitary-adrenocortical axis in rodents. Proc Natl Acad Sci U S A 2019;116(27):13670-13679
Agents: Corticosterone **Vehicle:** Saline; **Route:** CNS/CSF; **Species:** Mice; **Pump:** Not stated; **Duration:** 14 days;
ALZET Comments: Dose (0.75 mg/d or 2.0 mg/d); 0.9% Saline used; animal info (8-12 weeks old, C57BL/6); diabetes;

Q9022: M. Tian, *et al.* Adiponectin attenuates kidney injury and fibrosis in deoxycorticosterone acetate-salt and angiotensin II-induced CKD mice. American Journal of Physiology Renal Physiology 2018;315(3):F558-F571
Agents: Angiotensin II; Deoxycorticosterone acetate **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 3 weeks;
ALZET Comments: Dose (1 ng/min/g); animal info (Transgenic Mice); Blood pressure measured via taill cuff method;120 mmHg - 145 mmHg;Angiotensin II aka Ang II, Deoxycorticosterone acetate aka DOCA; dependence;

Q8070: Y. S. Lee, *et al.* Infrequent Feeding of Restricted Amounts of Food Induces Stress and Adipose Tissue Inflammation, Contributing to Impaired Glucose Metabolism. Int J Med Sci 2018;15(14):1667-1675
Agents: Corticosterone **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1003D; **Duration:** 3 days;
ALZET Comments: Dose (15 ug/hr); Controls received mp w/ vehicle; animal info (Male, C57BL/6); dependence;

Q6066: D. J. Morris, *et al.* Glucocorticoids and gut bacteria: "The GALF Hypothesis" in the metagenomic era. Steroids 2017;125(1-13
Agents: Chenodeoxycholic acid, progesterone, 11b-hydroxy-, corticosterone, deoxy-, corticosterone, 3α,5α-TH-, progesterone, 3α,5α-TH-11β-hydroxy- **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** Not Stated; **Duration:** Not Stated;
ALZET Comments: steroidal derivatives of corticosterone; Review presents the role of gut microbial metabolism of endogenous adrenocorticosteroids as a contributing factor in the etiology of essential hypertension.

Q6077: D. E. Livingstone, *et al.* Metabolic dysfunction in female mice with disruption of 5alpha-reductase 1. J Endocrinol 2017;232(1):29-36
Agents: Corticosterone **Vehicle:** DMSO; Propylene glycol; **Route:** Not Stated; **Species:** Mice
ALZET Comments: Dose (100 ug/day); 50% DMSO, 50% Propylene glycol used; animal info (Female 3-4 month old 5αR1-KO and wild-type mice); replacement therapy (glucocorticoid);

Q6029: A. Dey, *et al.* Glucocorticoid-mediated activation of GSK3beta promotes tau phosphorylation and impairs memory in type 2 diabetes. Neurobiol Aging 2017;57(75-83
Agents: Corticosterone; 2-hydroxypropyl-B-cyclodextrin; TDZD-8TDZD-8, **Vehicle:** Saline; **Route:** CSF/CNS (hippocampus); **Species:** Mice; **Pump:** Not Stated; **Duration:** 2 weeks;
ALZET Comments: animal info (5 weeks); functionality of mp verified by ELISA; bilateral cannula; behavioral testing (Y-maze, novel object preference task); TDZD-8 is a non-ATP-competitive selective inhibitor of GSK3b; Dose (2 uM/day);

Q6635: M. Nixon, *et al.* ABCC1 confers tissue-specific sensitivity to cortisol versus corticosterone: A rationale for safer glucocorticoid replacement therapy. Science Translational Medicine 2016;8(352):352-352ra109
Agents: Corticosterone; Cortisol **Vehicle:** DMSO; Propylene glycol; **Route:** SC; **Species:** Mice (knockout); **Pump:** 2001; **Duration:** 7 days;
ALZET Comments: Dose (corticosterone (250 ug/day) and cortisol (250 ug/day); Controls received mp w/ vehicle; animal info (Male(Abcc1−/−) mice);

Q6050: S. Koyanagi, *et al.* Glucocorticoid regulation of ATP release from spinal astrocytes underlies diurnal exacerbation of neuropathic mechanical allodynia. Nat Commun 2016;7(13102
Agents: Corticosterone **Vehicle:** Water, PEG, DMSO, Ethanol; **Route:** SC; **Species:** Mice; **Pump:** 2001; **Duration:** 7 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (5-6 weeks old); Vehicle: water and propylene glycol (1:1 volume) with 5% DMSO and 5% ethanol. Therapeutic indication (neuropathic mechanical allodynia, circadian rhythm);

Q5320: M. Benlloch, *et al.* Pterostilbene Decreases the Antioxidant Defenses of Aggressive Cancer Cells In Vivo: A Physiological Glucocorticoids- and Nrf2-Dependent Mechanism. Antioxidants & Redox Signaling 2016;24(17):974-90
Agents: Pterostilbene, Corticosterone **Vehicle:** DMSO, Ethanol; PEG400; **Route:** IV (jugular); **Species:** Mice; **Duration:** 35 days;
ALZET Comments: 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);

Q4018: B. F. Nelson, *et al.* Protracted treatment with corticosterone reduces breeding success in a long-lived bird. General and Comparative Endocrinology 2015;210(38-45
Agents: Corticosterone **Vehicle:** PEG 400; **Route:** SC; **Species:** Bird (kittiwake); **Pump:** 2002; **Duration:** 8 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (late incubation, 380g); functionality of mp verified by serum levels; Multiple pumps per animal (2);

R0351: D. J. Morris. Why do humans have two glucocorticoids: A question of intestinal fortitude. Steroids 2015;102(32-8
Agents: Corticosterone; progesterone, hydroxy- **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat;
ALZET Comments: These infused steroids produce glucocorticoid induced mineralcorticoid receptor mediated Na+ retention

Q5025: R. Maayan, *et al.* Dehydroepiandrosterone Attenuates Cocaine-Seeking Behaviour Independently of Corticosterone Fluctuations. J Neuroendocrinol 2015;27(11):819-26
Agents: Corticosterone **Vehicle:** DMSO; **Route:** SC; **Species:** Rat; **Pump:** 2002; **Duration:** 14 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (male, Sprague Dawley, 250-350g); functionality of mp verified by plasma levels; behavioral testing (lever pressing); dependence; Dose (15 mg/kg);

Q4387: J. S. M. Cuffe, *et al.* Differential mRNA Expression and Glucocorticoid-Mediated Regulation of TRPM6 and TRPM7 in the Heart and Kidney throughout Murine Pregnancy and Development. PLoS One 2015;10(U1394-U1410
Agents: Dexamethasone sodium phosphate; corticosterone **Vehicle:** Saline; **Route:** SC; **Species:** Mice (pregnant); **Pump:** 1003D; **Duration:** 60 hours;
ALZET Comments: Controls received mp w/ saline; animal info (female, E12.5, C57Bl6J, 8-10 weeks old); teratology; cardiovascular;

Q3696: M. Wosiski-Kuhn, *et al.* Glucocorticoid receptor activation impairs hippocampal plasticity by suppressing BDNF expression in obese mice. Psychoneuroendocrinology 2014;42(165-177
Agents: Corticosterone **Vehicle:** Cyclodextrin, 2-hydroxypropyl-b-; **Route:** CSF/CNS (hippocampus); **Species:** Mice; **Pump:** Not Stated; **Duration:** 2 weeks;
ALZET Comments: Controls received mp w/ vehicle and aCSF; animal info (male, C57BL6J or db/db, 5 weeks old); functionality of mp verified by hippocampal corticosterone levels; Multiple pumps per animal (2); behavioral testing (y-maze apparatus); tissue perfusion (bilateral hippocampi); immunology; Cannula placement verified via histology; used Plastics One bilateral cannula; bilateral infusion;

Q3573: A. D. Mueller, *et al.* The inhibitory effect of sleep deprivation on cell proliferation in the hippocampus of adult mice is eliminated by corticosterone clamp combined with interleukin-1 receptor 1 knockout. Brain, Behavior, and Immunity 2014;35(;):182-188
Agents: Corticosterone **Vehicle:** PEG 400; ethanol; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** Not Stated;
ALZET Comments: Animal info (male, homozygous IL1RI null, 7-8 weeks old); 5% ethanol used; post op. care (buprenorphine 0.1 mg/kg, metacam 1 mg/kg SQ, ADX rats given saline in water bottles); replacement therapy (adrenalectomy); immunology; sleep deprivation study;

Q4468: D. J. Morris, *et al.* An alternative explanation of hypertension associated with 17alpha-hydroxylase deficiency syndrome. Steroids 2014;79(44-8
Agents: corticosterone; progesterone, hydroxy- **Vehicle:** Propylene glycol; **Route:** sc; **Species:** Rat; **Pump:** Not Stated; **Duration:** 14 days;
ALZET Comments: Controls received mp w/ vehicle; animal info: adrenally intact rats; functionality of mp verified by measuring systolic blood pressure pg 46; replacement therapy (the agents infused); Dose: 5 ug/hr of both agents

Q4712: D. I. Claflin, *et al.* Modest elevation of corticosterone in preweanling rats impairs subsequent trace eyeblink conditioning during the juvenile period. Behavioural Brain Research 2014;258(;):19-26
Agents: Corticosterone **Vehicle:** PEG 400; **Route:** SC; **Species:** Rat; **Pump:** 1003D; **Duration:** 3 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (Long-Evans, PND15); functionality of mp verified by plasma levels pg22; no stress "Animals recovered quickly..." (see pg.20); post op. care (antibiotic ointment on wound, buprenorphine (0.052 mg/kg, heating pad until responsive and then returned to dam); “The corticosterone pellet was designed to produce a low, constant release of hormoneover a 21-day period, but plasma assays showed otherwise. There was a large supraphysiological increase in circulating corticoste-rone levels (to ~80 ug/dl) for about three days after implantationand a return to normal levels by the time testing occurred...In the present study, we administered cor-ticosterone using an alternative, more reliable method that yielded the low level (within a normal physiological range) and constantrate of delivery we had originally expected. Furthermore, since the~3-day period of elevation in the previous study was sufficient toproduce lasting effects on behavior, we chose to use an osmotic mini-pump that was designed to deliver corticosterone at a lowand constant rate over a 3-day period only. ” pg 20; pumps primed for 24 hours in sterile saline;

Q3774: B. L. Callaghan, *et al.* Early Emergence of Adult-Like Fear Renewal in the Developing Rat After Chronic Corticosterone Treatment of the Dam or the Pups. Behavioral Neuroscience 2014;128(594-602
Agents: Corticosterone **Vehicle:** Water, deionized; **Route:** SC; **Species:** Rat (neonate); **Pump:** 1007D; **Duration:** 7 days;
ALZET Comments: Control animals received mp w/ vehicle; animal info (naive, Sprague Dawley, P7). no stress pg 595-596. "The entire surgery took less than 5 min and the rats recovered well. The dorsal placement of the micropump was chosen because it does not interfere with the feeding position of pups." pg 595. "...dams in the current studies tolerated the pups well after both surgeries and there were no instances of cannibalism or obvious abuse (e.g., bite marks)" pg 596; pumps removed after 1 week;

Q5532: A. S. Brem, *et al.* Adrenalectomy amplifies aldosterone induced injury in cardiovascular tissue: an effect attenuated by adrenally derived steroids. Steroids 2013;78(3):347-55
Agents: Aldosterone, dehydrocorticosterone, 11- **Vehicle:** DMSO; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 7 days;
ALZET Comments: Controls received mp w/ (DMSO) (sham operated); animal info (C57BL/6 mice weighing 20-25 g); Cardiovascular (Aldosterone exposure); Therapeutic indication (Cardiovascular); Aldosterone (8 ug/kg/day); 11-dehydrocorticosterone (800 ug/kg/day)

Q2345: J. S. M. Cuffe, *et al.* Maternal Corticosterone Exposure in the Mouse Has Sex-Specific Effects on Placental Growth and mRNA Expression. Endocrinology 2012;153(11):5500-5511
Agents: Corticosterone **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 1003D; **Duration:** 60 hours;
ALZET Comments: Control animals were untreated; animal info (C57BL/6, E12.5)

R0281: F. Chaouloff, *et al.* Temporal modulation of hippocampal excitatory transmission by corticosteroids and stress. Frontiers in Neuroendocrinology 2011;32(1):25-42
Agents: Corticosterone **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Not Stated; **Pump:** Not Stated; **Duration:** 2 weeks;
ALZET Comments: Review, see H.H. Liu, H.R. Payne, B. Wang, S.T. Brady, Gender differences in response of hippocampus to chronic glucocorticoid stress: role of glutamate receptors, J. Neurosci. Res. 83 (2006) 775–786.

Q2273: Y. Hayashi, *et al.* Influence of a Time-Restricted Feeding Schedule on the Daily Rhythm of abcb1a Gene Expression and Its Function in Rat Intestine. The Journal of Pharmacology and Experimental Therapeutics 2010;335(2):418-423
Agents: Corticosterone **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Rat; **Pump:** Not Stated; **Duration:** Not Stated;
ALZET Comments: Animal info (Wistar, male, 6 wks old); replacement therapy (adrenalectomy)

Q1004: A. S. Brem, *et al.* Direct fibrogenic effects of aldosterone on normotensive kidney: an effect modified by 11 beta-HSD activity. American Journal of Physiology Renal Physiology 2010;298(5):F1178-F1187
Agents: Aldosterone; RU-318; dehydrocorticosterone, 11-; corticosterone **Vehicle:** DMSO; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 7 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (male, C57BL/6, 20-25 g)

Q0842: D. Ackermann, *et al.* In vivo nuclear translocation of mineralocorticoid and glucocorticoid receptors in rat kidney: differential effect of corticosteroids along the distal tubule. American Journal of Physiology Renal Physiology 2010;299(6):F1473-F1485
Agents: Corticosterone **Vehicle:** NaCl; **Route:** SC; **Species:** Rat; **Pump:** Not Stated; **Duration:** 2 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (male, Wistar); replacement therapy (adrenalecomy)

P9869: M. Herrmann, *et al.* The challenge of continuous exogenous glucocorticoid administration in mice. Steroids 2009;74(2):245-249
Agents: Corticosterone **Vehicle:** PEG 400; DMSO; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 21 days;
ALZET Comments: Controls received mp w/ vehicle; functionality of mp verified by residual volume; comparison of SC injections vs. pellet vs SC mp; animal info (Swiss White, male, CD1. 7-9 wks old)

P9394: M. S. Byerly, *et al.* Effects of BDNF, T_3, and corticosterone on expression of the hypothalamic obesity gene network in vivo and in vitro. American Journal of Physiology Regulatory, Integrative, and Comparable Physiology 2009;296(4):R1180-R1189
Agents: Corticosterone; Triiodothyronine **Vehicle:** DMSO; Propylene glycol; **Route:** SC; **Species:** Bird (chicken); **Pump:** 2001; **Duration:** 72 hours;
ALZET Comments: Controls received mp w/ vehicle; animal info (male, 29 days old); 50% DMSO used; 50% propylene glycol used

P8854: A. D. Mueller, *et al.* Sleep deprivation can inhibit adult hippocampal neurogenesis independent of adrenal stress hormones. American Journal of Physiology Regulatory, Integrative, and Comparable Physiology 2008;294(5):R1693-R1703
Agents: Corticosterone **Vehicle:** PEG 400; **Route:** SC; **Species:** Rat; **Pump:** 2ML2; **Duration:** 7, 11 days;
ALZET Comments: Replacement therapy (adrenalectomy); dose-response (Fig. 6); comparison of oral vs. mp; pumps replaced after 1 week; animal info (male, Long-Evans, 300-400g.; male, Sprague Dawley, 250-300g.); "the method of Cort replacement is crucial for detecting an effect of RSD on cell proliferation." (p. R1700), mp was successful at this

P7872: C. R. Maxwell, *et al.* Corticosterone modulates auditory gating in mouse. Neuropsychopharmacology 2006;31(5):897-903
Agents: Corticosterone **Vehicle:** PEG 400; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 14 days;
ALZET Comments: Controls received mp w/ vehicle; dose-response (fig. 3); comparison of SC pellets vs. mp; animal info (male, C57BL/6J, 10-11 wk. old)

P7810: H. H. Liu, *et al.* Gender differences in response of hippocampus to chronic glucocorticoid stress: Role of glutamate receptors. Journal of Neuroscience Research 2006;83(5):775-786
Agents: Corticosterone **Vehicle:** PEG; **Route:** SC; **Species:** Mice; **Pump:** 2002; **Duration:** 2 weeks;
ALZET Comments: Controls received no treatment; functionality of mp verified by plasma corticosterone levels; animal info (male, female, C57BL/6J, 7 wk old); "Although daily injections do elevate plasma corticosterone chronically, animals experience spikes of corticosterone associated with both handling and injection" (pg. 776)

P7247: U. A. Nuber, *et al.* Up-regulation of glucocorticoid-regulated genes in a mouse model of Rett syndrome. Human Molecular Genetics 2005;14(15):2247-2256
Agents: Corticosterone **Vehicle:** DMSO; Polypropylene glycol; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 48 hours;
ALZET Comments: Controls received mp w/ vehicle; functionality of mp verified by plasma corticosterone levels; comparison of silastic implants vs. mp; 50% DMSO used; 50% propylene glycol used

P7432: S. Ellis*, et al.* Early life immune challenge alters innate immune responses to lipopolysaccharide: implications for host defense as adults. FASEB Journal 2005;19(8):U826-U842
Agents: Corticosterone **Vehicle:** PEG; **Route:** IP; **Species:** Rat; **Pump:** 2001; **Duration:** 1 week;
ALZET Comments: Replacement therapy (adrenalectomy); no stress (see pg. 4); immunology; post op. care (derapen); "the survival rate of this procedure (ADX + mp) was 100% with animals having normal body temperature within 24 hours after the surgery."

P6237: H. Watanobe*, et al.* Adrenal glucocorticoids do not mediate impaired reproductive function induced by lipopolysaccharide in rats. Neuroendocrinology 2003;78(1):23-28
Agents: Corticosterone **Vehicle:** PEG 400; **Route:** SC; **Species:** Rat; **Pump:** 2ML2; **Duration:** 14 days;
ALZET Comments: Controls received no mp and saline injection; functionality of mp verified by plasma drug concentrations; replacement therapy (orchidectomy; adrenalectomy); LPS given by injection

P5226: J. Wang*, et al.* The immunosuppressive effects of chronic morphine treatment are partially dependent on corticosterone and mediated by the mu-opioid receptor. J Leukoc. Biol 2002;71(5):782-790
Agents: Corticosterone **Vehicle:** PEG 400; **Route:** SC; **Species:** Mice; **Pump:** Not Stated; **Duration:** 48 hours;
ALZET Comments: Controls received mp w/ vehicle; functionality of mp verified by corticosterone plasma levels; dose-response (p. 784); immunology;

P5331: M. S. Man*, et al.* Corticosterone modulation of somatodendritic 5-HT1A receptor function in mice. Journal of Psychopharmacology 2002;16(3):245-252
Agents: Corticosterone **Vehicle:** PEG; **Route:** SC; **Species:** Mice; **Pump:** 2001; **Duration:** 72 hours;
ALZET Comments: Corticosterone plasma levels checked; replacement therapy (adrenalectomy); comparison of SC injections vs mp

P4979: J. L. W. Yau*, et al.* Lack of tissue glucocorticoid reactivation in 11 beta-hydroxysteroid dehydrogenase type 1 knockout mice ameliorates age-related learning impairments. Proceedings of the National Academy of Sciences of the United States of America 2001;98(4716-4721
Agents: Corticosterone **Vehicle:** Saline; Ethanol; Radio-isotopes; **Route:** SC; **Species:** Mice; **Pump:** 2001; **Duration:** 7 days;
ALZET Comments: Brain tissue distribution; Vehicle was 90% saline; 10% ethanol; aging; corticosterone brain distribution

P4494: R. Sacedón*, et al.* Early maturation of T-cell progenitors in the absence of glucocorticoids. Blood 1999;94(8):2819-2826
Agents: Corticosterone **Vehicle:** Propylene glycol; NaCl; **Route:** SC; **Species:** Rat (pregnant); **Pump:** 2ML4; **Duration:** Not Stated;
ALZET Comments: Controls received sham surgery; functionality of mp verified by corticosterone levels in plasma; replacement therapy (adrenalectomy); teratology;

P3714: E.-L. Sainio. The role of adrenal hormones in the activation of tryptophan 2,3-dioxygenase by nicotinic acid in rat liver. Meth. Find Exp. Clin. Pharmacol 1997;19(7):465-470
Agents: Epinephrine; Corticosterone **Vehicle:** Ethanol; NaCl; **Route:** SC; **Species:** Rat; **Pump:** 2ML1; **Duration:** 6 days;
ALZET Comments: controls received mp w/vehicle; replacement therapy (adrenalectomy)

P4144: G. W. Souness*, et al.* 11a- and 11b- hydroxyprogesterone, potent inhibitors of 11b-hydroxysteroid dehydrogenase, possess hypertensinogenic activity in the rat. Hypertension 1996;27(pt 1):421-425
Agents: Progesterone, 11a; Hydroxyprogesterone, 11b; RU-28318; Corticosterone **Vehicle:** Propylene glycol; **Route:** SC; **Species:** Rat; **Pump:** 2002; **Duration:** 14 days;
ALZET Comments: controls received mp w/vehicle; functionality of mp verified by residual volume; replacement therapy (adrenalectomy); agents infused singly and concomitantly in same pump; cardiovascular

P3153: G. K. DeKrey, *et al.* Effects of exogenous corticosterone treatment on alloantigen-specific cytotoxic T lymphocyte activity in mice. J. Pharmacol. Exp. Ther 1995;273(2):823-829
Agents: Corticosterone; Dexamethasone **Vehicle:** PEG 400; **Route:** Not Stated; **Species:** Mice; **Pump:** 2002; **Duration:** 14 days;
ALZET Comments: Controls received mp with PEG; functionality of mp verified by plasma levels; immunology; agent infusion delayed 1 day after surgery (by using catheter tubing)

P2905: L. G. Palmer, *et al.* Regulation of apical K and Na channels and Na/K pumps in rat cortical collecting tubule by dietary K. J. Gen. Physiol 1994;104(693-710
Agents: Aldosterone; Corticosterone **Vehicle:** PEG 300; **Route:** SC; **Species:** Rat; **Pump:** 2002; **Duration:** Not Stated;
ALZET Comments: Replacement therapy (adrenalectomy)

P3168: A. H. Miller, *et al.* Effects of selective type I and II adrenal steroid agonists on immune cell distribution. Endocrinology 1994;135(5):1934-1944
Agents: Aldosterone; RU-28362; Corticosterone **Vehicle:** Propylene glycol; **Route:** SC; **Species:** Rat; **Pump:** Not Stated;
Duration: 7 days;
ALZET Comments: replacement therapy (adrenalectomy)

P3238: M. J. Lobo, *et al.* Effect of chronic intravenous injection of steroid hormones on body weight and composition of female rats. Biochem. Molec. Biol. Intl 1993;29(2):349-358
Agents: Progesterone; Cortisol; Cortisone; Corticosterone; Dehydroepiandrosterone; Androstenedione, 4-; Androstendiol, 5-; Testosterone; Nortestosterone, 19-; Estradiol, B-; Estrone; Estriol; Deoxycorticosterone **Vehicle:** PEG 400; **Route:** IV (lower cava);
Species: Rat; **Pump:** 2002; **Duration:** 15 days;
ALZET Comments: controls received mp with PEG; no stress (see pg. 351); pumps placed into peritoneal cavity and sutured to musculature; surgical wound sprinkled with sulphathiazol

P2441: G. Thordarson, *et al.* Mammary gland differentiation in hypophysectomized, pregnant mice treated with corticosterone and thyroxine. Biology of Reproduction 1992;47(676-682
Agents: Corticosterone **Vehicle:** Cyclodextrin; **Route:** SC; **Species:** Mice (pregnant); **Pump:** 2001; **Duration:** Not Stated;
ALZET Comments: Controls received mp w/ vehicle, sham operation or no treatment; vehicle was Molecusol

P2271: S. Fragman, *et al.* The hypertensinogenic activity of 18,19-dihydroxycorticosterone in adrenalectomized rats. American Journal of Hypertension 1992;5(399-401
Agents: Aldosterone; Corticosterone, dihydroxy- **Vehicle:** Propylene glycol; **Route:** SC; **Species:** Rat; **Pump:** 2002; **Duration:** 2 weeks;
ALZET Comments: controls received mp w/vehicle; replacement therapy (adrenalectomy)

P2032: J. N. Petitte, *et al.* Daily infusion of corticosterone and reproductive function in the domestic hen (Gallus domesticus). Gen. Comp. Endocrinol 1991;83(3):397-405
Agents: Corticosterone **Vehicle:** PEG 400; **Route:** SC; **Species:** Bird (chicken); **Pump:** 2ML2; 2ML4; **Duration:** 14 days;
ALZET Comments: Dose-response; pulsed delivery achieved by externalizing PE-60 catheter from pump. Catheter could be disconnected at will for intermittent delivery: 10 hr on/14 hr off, 4 hr on/20 hr off, 24 hr on/0 hr off (pg 398-399)

P1649: E. P. Gomez-Sanchez, *et al.* ICV infusion of corticosterone antagonizes ICV-aldosterone hypertension. American Journal of Physiology Endocrinology and Metabolism 1990;258(21):E649-E653
Agents: Aldosterone; RU-26988; Corticosterone **Vehicle:** CSF, artificial; Propylene glycol; **Route:** CSF/CNS; **Species:** Rat; **Pump:** 2002; **Duration:** 28 days;
ALZET Comments: dose-response (graph); pump replaced at 2 weeks; propylene glycol at 2%

P1849: G. Brown, *et al.* Effect of angiotensin II infusion in rats on Na, K-ATPase activity in renal cortical microsomal preparations. Archives of Biochemistry and Biophysics 1989;275(1):236-243
Agents: Angiotensin II; Corticosterone **Vehicle:** Acetic acid; PEG 400; **Route:** IP; **Species:** Rat; **Pump:** Not Stated; **Duration:** 24, 72 hours;
ALZET Comments: replacement therapy (adrenalectomy); peptides; multiple pumps per animal (2) placed IP

P1429: T. Rosenthal, *et al.* The hypertensinogenic activity of 18-hydroxy-19-norcorticosterone in the adrenalectomized rat. American Journal of Hypertension 1988;1(3):49S-51S
Agents: Aldosterone, 18-; Hydroxy-19-norcorticosterone; Hydroxycortisone, 18- **Vehicle:** Propylene glycol; **Route:** SC; **Species:** Rat; **Pump:** 2002; **Duration:** 2 weeks;
ALZET Comments: hc and aldo administered concomitantly

P1265: R. B. Jones, *et al.* Tonic immobility and Heterophil/lymphocyte responses of the domestic fowl to corticosterone infusion. Physiology & Behavior 1988;42(3):249-253
Agents: Corticosterone **Vehicle:** PEG 400; **Route:** SC; **Species:** Bird (chicken); **Pump:** 2ML2; **Duration:** 11 days;
ALZET Comments: controls received mp w/vehicle; dose-response; functionality of mp verified by previous studies

P1003: D. R. Mann, *et al.* Mutually independent effects of adrenocorticotropin on luteinizing hormone and testosterone secretion. Endocrinology 1987;120(1542-1550
Agents: ACTH (1-24); Corticosterone **Vehicle:** Propylene glycol; Saline; **Route:** SC; **Species:** Rat; **Pump:** 2001; 2ML1; **Duration:** 72, 96 hours;
ALZET Comments: Controls received mp w/vehicle; peptides; replacement therapy (adrenalectomy)

P1139: T. M. John, *et al.* Influence of corticosterone infusion on plasma levels of catecholamines, thyroid hormones, and certain metabolites in laying hens. Poultry Science 1987;66(6):1059-1063
Agents: Corticosterone **Vehicle:** PEG 400; **Route:** SC; **Species:** Bird (chicken); **Pump:** Not Stated; **Duration:** 14, 28 days;
ALZET Comments: Pump model not stated; controls received mp w/ vehicle

P1202: P. C. Powell, *et al.* Induction of Marek's disease in vaccinated chickens by treatment with betamethasone or corticosterone. Isr. J. Vet. Med 1986;42(2):73-78
Agents: Corticosterone **Vehicle:** Not Stated; **Route:** SC; **Species:** Bird (chicken); **Pump:** Not Stated; **Duration:** 14 days;
ALZET Comments: Pump model not stated; controls received saline injections; concomitant cyclophosphamide injections; immunology

P0850: B. S. McEwen, *et al.* Aldosterone effects on salt appetite in adrenalectomized rats. Neuroendocrinology 1986;43(38-43
Agents: Aldosterone, d-; RU-28313; Corticosterone **Vehicle:** Propylene glycol; **Route:** SC; **Species:** Rat; **Pump:** 2001; **Duration:** 2, 3 days;
ALZET Comments: Controls received mp w/vehicle; hypertension; 3 doses of aldosterone infused; replacement therapy (adrenalectomy); RU-28313 is an antimineralcorticoid

P0566: P. C. Will, *et al.* Regulation of amiloride-sensitive electrogenic sodium transport in the rat colon by steroid hormones. American Journal of Physiology Gastrointestinal and Liver Physiology 1985;248(1):G124-G132
Agents: Aldosterone; Corticosterone; Dexamethasone phosphate; Estradiol, 17B-; Progesterone; Testosterone **Vehicle:** PEG 400; PEG 600; **Route:** IP; **Species:** Rat; **Pump:** 1701; 2001; **Duration:** 3, 8 days;
ALZET Comments: Comparison of agents effects; replacement therapy (adrenalectomy & ovariectomy); controls received mp with solvent or glass rods of mp size; no stress implied G125, weight regained; functionality of mp verified

P0656: A. A. J. C. van Zon, *et al.* ACTH-dependent modulation of malaria immunity in mice. Parasite Immunology 1985;7(2):107-117
Agents: Cosyntropin; Corticosterone; Dexamethasone **Vehicle:** Hank's solution; HEPES solution; PEG; **Route:** SC; **Species:** Mice; **Pump:** 2002; **Duration:** Not Stated;
ALZET Comments: Comparison of agents effects; replacement therapy (adrenalectomy); tetracosactrin (cosyntropin) is a synthetic ACTH analog; dose-response data; immunology

P0612: R. Phillips*, et al.* Effect of mineralocorticoids and glucocorticoids on compensatory adrenal growth in rats. American Journal of Physiology Endocrinology and Metabolism 1985;248(4):E450-E456
Agents: Aldosterone; Fluorocortisol acetate, 9a-; Corticosterone; Deoxycorticosterone; Dexamethasone **Vehicle:** Ethanol; Propylene glycol; Water; **Route:** SC; **Species:** Rat; **Pump:** 2001; **Duration:** 3 days;
ALZET Comments: Replacement therapy (unilateral adrenalectomy); each mp used twice, 3 days in one animal, then 3 days in another; cannot tell if stability/concentration of ald. determined by RIA before or after exp

P0710: D. E. Mills*, et al.* Interaction of prolactin with adrenal hormones in blood pressure regulation in rats. American Journal of Physiology Endocrinology and Metabolism 1985;249(E614-E618
Agents: Corticosterone; Epinephrine; Norepinephrine; Prolactin, ovine **Vehicle:** Ethanol; Sodium chloride; Water; **Route:** IP; **Species:** Rat; **Pump:** 2001; **Duration:** 7 days;
ALZET Comments: replacement therapy (adrenalectomy); separate and simultaneous infusion of agents; multiple pumps per animal (2) for CORT; hypertension; controls received mp w/NaCl; peptides

P0709: M. Fukushima*, et al.* Interaction of light and corticosterone on food intake and brown adipose tissue of the rat. American Journal of Physiology Regulatory, Integrative, and Comparable Physiology 1985;249(R753-R757
Agents: Corticosterone **Vehicle:** Propylene glycol; Saline; **Route:** Not Stated; **Species:** Rat; **Pump:** 2ML2; **Duration:** 2 weeks;
ALZET Comments: comparison of ip injection vs. mp infusion; replacement therapy (adrenalectomy); mp functionality (rates) verified in vitro prior to study

P0731: L. D. Devenport*, et al.* Continuous infusion of aldosterone: correlates of body weight gain. Pharmacology Biochemistry and Behavior 1985;22(707-709
Agents: Corticosterone **Vehicle:** PEG; **Route:** SC; **Species:** Rat; **Pump:** 2002; **Duration:** Not Stated;
ALZET Comments: Replacement therapy (adrenalectomy); controls received sham pumps; varied doses of aldosterone administered in combination w/ mp infusion; mp delivery failure? (see pg. 707)

P0194: P. Komanicky*, et al.* Hypertensinogenic potencies of aldosterone and deoxycorticosterone in the rat. Hypertension 1982;4(1):140-145
Agents: Aldosterone acetate; Deoxycorticosterone acetate **Vehicle:** Ethanol; Propylene glycol; Water; **Route:** SC; **Species:** Rat; **Pump:** 1701; **Duration:** 3 weeks;
ALZET Comments: Additional pump implanted after 7 and 14 days adjacent to the 'spent' pumps

P0182: J. Carroll*, et al.* The relationship between plasma 18-hydroxy-11-deoxycorticosterone levels and production of hypertension in the rat. Journal of Steroid Biochemistry 1981;14(989-995
Agents: Deoxycorticosterone, 18-OH-; Deoxycorticosterone acetate, 11- **Vehicle:** Ethanol; Propylene glycol; Water; **Route:** SC; **Species:** Rat; **Pump:** Not Stated; **Duration:** 3 weeks; 2 days;
ALZET Comments: Pumps replaced on days 7 & 14 in Exp. 1

P0140: J. Carroll*, et al.* 5a-dihydro-11-deoxycorticosterone: effect on blood pressure in the rat. Steroids 1981;37(1):111-120
Agents: Deoxycorticosterone acetate; Deoxycorticosterone acetate, 11-; Deoxycorticosterone, 5a-dihydro-; Deoxycorticosterone, 5a-dihydro-11- **Vehicle:** Ethanol; Propylene glycol; **Route:** SC; **Species:** Rat; **Pump:** Not Stated; **Duration:** 7 days;
ALZET Comments: no comment posted

P0061: P. C. Will*, et al.* Polyethylene glycols as solvents in implantable osmotic pumps. Journal of Pharmaceutical Sciences 1980;69(6):747-749
Agents: Aldosterone; Corticosterone; Deoxycorticosterone acetate; Dexamethasone acetate; Estradiol, 17B-; Hydrocortisone; Progesterone; Spironolactone; Testosterone **Vehicle:** PEG; PEG 400; PEG 600; **Route:** IP; **Species:** Rat; **Pump:** 1701; **Duration:** Not Stated;
ALZET Comments: 3-7 days aldosterone, 6 days PEG only; replacement therapy (adrenalectomy)