



References on the Administration of Atrial Natriuretic Factor or Atrial Natriuretic Peptide  
Using ALZET® Osmotic Pumps

**Q11043:** D. Jiang, *et al.* Natriuretic peptides potentiate cardiac hypertrophic response to noradrenaline in rats. *Peptides* 2023;166(171035)

**Agents:** Noradrenaline; Atrial natriuretic peptide; C-type natriuretic peptides **Vehicle:** Ascorbic acid; glutathione; saline;  
**Route:** SC; IV (jugular); **Species:** Rat; **Pump:** 2002; **Duration:** 14 days;

**ALZET Comments:** Dose: 30 µg/h; ANP, CNP: 1.0 µg/h; 0.005% ascorbic acid and 5 mM glutathione; 0.9% saline used; animal info: Nine-week-old male; peptides; PE catheter used; cardiovascular; "In the present study, persistent administration of ANP and CNP augmented cardiac hypertrophic response to NA infused continuously for 14 days in rats, suggesting a possible pro-hypertrophic action of natriuretic peptides on the heart."

**Q10981:** L. Pioppi, *et al.* FTIR Analysis of Renal Tissue for the Assessment of Hypertensive Organ Damage and proANP(31-67) Treatment. *International Journal of Molecular Sciences* 2023;24(6):

**Agents:** Atrial natriuretic peptide 31-67, pro- **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Strain:** DSS;

**ALZET Comments:** Dose (50 ng/kg per day); Controls received mp w/ vehicle; animal info: male rats (150g initially); nephrology; cardiovascular (hypertension)

**Q10208:** U. Kilic, *et al.* Inflammatory Cytokines are in Action: Brain Plasticity and Recovery after Brain Ischemia Due to Delayed Melatonin Administration. *Journal of Stroke and Cerebrovascular Diseases* 2021;30(12):106105

**Agents:** Melatonin **Vehicle:** Ethanol; NaCl; **Route:** IP; **Species:** Mice; **Pump:** 2002; **Duration:** 55 days;

**ALZET Comments:** Dose: (4 mg/kg/day); 10% ethanol; 0.9% NaCl vehicle used; Controls received mp w/ vehicle; animal info: C57BL/6 mice(21-25 g, male); behavioral testing: grip strength test; Brain coordinates ((MCA) territory (2 mm posterior/6 mm lateral from bregma); Cyanoacrylate adhesive used: An intraluminal filament technique using an 8-0 nylon coated with silicon resin was applied after the ligation of the left common and external carotid arteries to obtain focal ischemia; ischemia (brain);

**Q8116:** I. Matsui, *et al.* Cardiac hypertrophy elevates serum levels of fibroblast growth factor 23. *Kidney Int* 2018;94(1):60-71

**Agents:** Atrial Natriuretic Peptide, Brain Natriuretic Peptide, or Antidiuretic Hormone **Vehicle:** Not stated; **Route:** SC; **Species:** Mice; **Pump:** Not stated; **Duration:** 3 days;

**ALZET Comments:** Dose (2 ng/kg/h); animal info (C57BL/6, 10-12 weeks old); Antidiuretic Hormone aka fibroblast growth factor 23, ; cardiovascular;

**Q5329:** A. Okamoto, *et al.* Atrial natriuretic peptide protects against bleomycin-induced pulmonary fibrosis via vascular endothelial cells in mice : ANP for pulmonary fibrosis. *Respir Res* 2017;18(1):1

**Agents:** Atrial natriuretic peptide **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 21 days;

**ALZET Comments:** Controls received mp w/ vehicle; animal info (C57BL/6 N male mice, 7 weeks old, 21–23 g;

**Q6194:** Nojiri T, *et al.* Transcriptome analysis reveals a role for the endothelial ANP-GC-A signaling in interfering with pre-metastatic niche formation by solid cancers. *ONCOTARGET* 2017;8(39):65534-65547

**Agents:** Atrial natriuretic peptide **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1002; 2004; **Duration:** Not Stated;

**ALZET Comments:** Dose (0.5 µg/kg/min); Controls received mp w/ vehicle; cancer

**Q5170:** T. Nojiri, *et al.* Atrial natriuretic peptide protects against cisplatin-induced granulocytopenia. *Cancer Chemotherapy and Pharmacology* 2016;78(1):191-7

**Agents:** Atrial natriuretic peptide **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 1003D; **Duration:** Not Stated;

**ALZET Comments:** Controls received mp w/ vehicle; animal info (C57BL6, 7 weeks old); toxicology; immunology; Dose (1.5 µg/kg/min);



**Q4291:** M. Romero, *et al.* Chronic Treatment with Atrial Natriuretic Peptide in Spontaneously Hypertensive Rats: Beneficial Renal Effects and Sex Differences. PLoS One 2015;10(U2533-U2545)

**Agents:** Atrial natriuretic peptide **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** 1002; **Duration:** 14 days;  
**ALZET Comments:** Controls received mp w/ SALINE; animal info (Spontaneously hypertensive rats, 10 weeks old); cardiovascular; peptides; bp measured using tail cuff;

**Q4549:** T. Nojiri, *et al.* Atrial natriuretic peptide prevents cancer metastasis through vascular endothelial cells. PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA 2015;112(4086-4091)

**Agents:** Atrial natriuretic peptide **Vehicle:** Saline; **Route:** IV (jugular); **Species:** Mice (nude); **Pump:** 1002; 2004; **Duration:** 4 days;  
**ALZET Comments:** Controls received mp w/ vehicle; animal info (BALB/c nu/nu, 6 weeks old); cancer (lung); cardiovascular; immunology; used mouse jugular catheter (#7702); bp measured using tail cuff;

**Q4025:** T. Nojiri, *et al.* Atrial natriuretic peptide protects against cisplatin-induced acute kidney injury. Cancer Chemotherapy and Pharmacology 2015;75(123-129)

**Agents:** Atrial natriuretic peptide **Vehicle:** Glucose; **Route:** SC; **Species:** Mice; **Pump:** 1003D; **Duration:** 72 hours;  
**ALZET Comments:** Controls received mp w/ vehicle; animal info (C57BL6, 7 weeks old); 5% glucose used; cardiovascular; peptides;

**Q4024:** T. Nojiri, *et al.* Atrial natriuretic peptide inhibits lipopolysaccharide-induced acute lung injury. Pulmonary Pharmacology & Therapeutics 2014;29(24-30)

**Agents:** Atrial natriuretic peptide **Vehicle:** Glucose; **Route:** SC; **Species:** Mice; **Pump:** 1003D; **Duration:** 2 days;  
**ALZET Comments:** Controls received mp w/ vehicle; animal info (C57BL6, 6 weeks old); functionality of mp verified by blood levels; 5% glucose used; cardiovascular; immunology; peptides;

**Q2932:** M. Romero, *et al.* Sex Differences in the Beneficial Cardiac Effects of Chronic Treatment with Atrial Natriuretic Peptide In Spontaneously Hypertensive Rats. PLoS One 2013;8(8):U1723-U1730

**Agents:** Atrial natriuretic factor, ANP **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** 1002; **Duration:** 14 days;  
**ALZET Comments:** Cardiovascular; antihypertensive; animal info (SHR, 10 weeks old); functionality of mp verified by systolic blood pressure measurement;

**Q2145:** F. Azibani, *et al.* Aldosterone Inhibits the Fetal Program and Increases Hypertrophy in the Heart of Hypertensive Mice. PLoS One 2012;7(5):U1083-U1090

**Agents:** Atrial natriuretic factor **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 2004; **Duration:** 1 month;  
**ALZET Comments:** Animal info (8 mo old, Ren, AS-Ren); peptides

**Q1201:** A. Lenz, *et al.* Cardiac hormones eliminate some human squamous lung carcinomas in athymic mice. European Journal of Clinical Investigation 2010;40(3):242-249

**Agents:** Vessel dilator; kaliuretic peptide; atrial natriuretic factor; long-acting natriuretic peptide **Vehicle:** Saline; **Route:** SC; **Species:** Mice (nude); **Pump:** 1007D; **Duration:** 28 days;  
**ALZET Comments:** Controls received mp w/ vehicle; animal info (male, athymic, nu/nu, 20 g); peptides; pumps replaced weekly; cancer (lung)

**P9412:** A. K. Houg, *et al.* Atrial natriuretic peptide increases inflammation, infarct size, and mortality after experimental coronary occlusion. American Journal of Physiology Heart and Circulatory Physiology 2009;296(3):H655-H661

**Agents:** Atrial natriuretic factor, mouse **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 1002; **Duration:** 12 days;  
**ALZET Comments:** Controls received no treatment; cardiovascular; peptides; animal info (male, C57BL/6, wt, ANP -/-, 6-24 wks old, MI); ischemia (cardiac)



**P9170:** E. J. Eichelbaum, *et al.* Cardiac and kidney hormones cure up to 86% of human small-cell lung cancers in mice. *European Journal of Clinical Investigation* 2008;38(8):562-570

**Agents:** Atrial natriuretic factor **Vehicle:** Saline; **Route:** SC; **Species:** Mice (nude); **Pump:** 1007D; **Duration:** 4 weeks;  
**ALZET Comments:** Controls received mp w/ vehicle; cancer (small cell lung); peptides; animal info (nu/nu, athymic); urodilatin is a kidney hormone; atrial natriuretic peptid, vessel dilator peptide, kaliuretic peptide, urodilation;

**P7774:** S. R. Saba, *et al.* Immunocytochemical localization of atrial natriuretic peptide, vessel dilator, long-acting natriuretic peptide, and kaliuretic peptide in human pancreatic adenocarcinomas. *JOURNAL OF HISTOCHEMISTRY & CYTOCHEMISTRY* 2005;53(8):989-995

**Agents:** Atrial natriuretic factor; vessel dilator peptide; kaliuretic peptide; natriuretic peptide, long-acting **Vehicle:** Not Stated;  
**Route:** Not Stated; **Species:** Mice (nude); **Pump:** 2004; **Duration:** 4 weeks;  
**ALZET Comments:** Cancer (pancreatic adenocarcinoma); peptides; animal info (athymic)

**P7693:** T. Kato, *et al.* Atrial natriuretic peptide promotes cardiomyocyte survival by cGMP-dependent nuclear accumulation of zyxin and Akt. *Journal of Clinical Investigation* 2005;115(10):2716-2730

**Agents:** Atrial natriuretic peptide **Vehicle:** Saline; **Route:** SC; **Species:** Mice (transgenic); mice; **Pump:** Not Stated; **Duration:** 24 hours;  
**ALZET Comments:** Controls received mp w/ vehicle; functionality of mp verified by ANP plasma levels; half-life (p. 2727) "a few minutes;" cardiovascular; peptides; animal info (FVBN/J); "the short half-life of ANP...prompted use of an osmotic pump for prolonged release." (p. 2727)

**P7647:** M. N. Barber, *et al.* Atrial natriuretic peptide preserves endothelial function during intimal hyperplasia. *JOURNAL OF VASCULAR RESEARCH* 2005;42(2):101-110

**Agents:** Atrial natriuretic peptide; natriuretic peptide, C-type **Vehicle:** Saline, sterile; **Route:** IA (carotid); perivascular (arterial collar); **Species:** Rabbit; **Pump:** 2001; **Duration:** 7 days;  
**ALZET Comments:** Cardiovascular; animal info (New Zealand white, 3-4 kg); peptides

**P5938:** T. T. Lee, *et al.* Chronic administration of atrial natriuretic peptide reduces testosterone production of testes in mice. *Journal of Andrology* 2003;24(6):912-917

**Agents:** Atrial natriuretic peptide **Vehicle:** Saline; **Route:** SC; **Species:** Mice; **Pump:** 2001; **Duration:** 7 days;  
**ALZET Comments:** Controls received mp w/ vehicle; comparison of IP injections vs. SC mp; peptides

**P4661:** S. Fukui, *et al.* Differential effects of atrial natriuretic peptide on the brain water and sodium after experimental cortical contusion in the rat. *Journal of Cerebral Blood Flow and Metabolism* 2003;23(10):1212-1218

**Agents:** Atrial natriuretic peptide; 8-Bromo-cGMP **Vehicle:** Saline; **Route:** IP; **Species:** Rat; **Pump:** 2001D; **Duration:** 24 hours;  
**ALZET Comments:** Controls received mp w/ vehicle; peptides; 8-Bromo-cGMP is a cyclic GMP analog

**P4303:** J. R. Klinger, *et al.* Brain natriuretic peptide inhibits hypoxic pulmonary hypertension in rats. *J. Appl. Physiol* 1998;84(5):1646-1652

**Agents:** Brain natriuretic peptide; Atrial natriuretic peptide **Vehicle:** Saline; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2ML2; **Duration:** 2 weeks;  
**ALZET Comments:** controls received mp with vehicle; peptides; cardiovascular; heparinized catheter used;

**P3382:** G. A. Rosenberg, *et al.* Atrial natriuretic peptide blocks hemorrhagic brain edema after 4-hour delay in rats. *Stroke* 1995;26(8):874-877

**Agents:** Atrial natriuretic factor **Vehicle:** Not Stated; **Route:** IP; **Species:** Rat; **Pump:** Not Stated; **Duration:** 20 hrs;  
**ALZET Comments:** peptides

**P2519:** L. Zhao, *et al.* Reversal of pulmonary vascular remodelling following hypoxic exposure: no effect of infusion of atrial natriuretic factor and neutral endopeptidase inhibitor. *Cardiovascular Research* 1994;28(5):519-523

**Agents:** Atrial natriuretic factor; Candoxatrilat **Vehicle:** Saline; **Route:** IV (jugular); **Species:** Rat; **Pump:** Not Stated; **Duration:** 7,14 days;  
**ALZET Comments:** enzyme inhibitor; candoxatrilat also called UK 73,967 and neutral endopeptidase 24.11 inhibitor; peptides



**P2464:** M. C. Mourlon-Le Grand, *et al.* Effect of a nonhypotensive long-term infusion of ANP on the mechanical and structural properties of the arterial wall in wistar-kyoto and spontaneously hypertensive rats. *Arteriosclerosis, Thrombosis, and Vascular Biology* 1993;13(5):640-650

**Agents:** Atrial natriuretic factor **Vehicle:** Saline; **Route:** SC; **Species:** Rat; **Pump:** 2ML4; **Duration:** 25 days;

**ALZET Comments:** peptides

**P1948:** J. Lee, *et al.* Atrial natriuretic peptide attenuates the development of two-kidney, one clip hypertension in rats. *Chonnam Journal of Medical Sciences* 1990;3(2):99-105

**Agents:** Atrial natriuretic factor **Vehicle:** Not Stated; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2ML2; **Duration:** 12 days;

**ALZET Comments:** peptides; atriopeptin III

**P1804:** K. Kimura, *et al.* Effects of chronic administration of atrial natriuretic polypeptide on glomerular lesions in spontaneously hypertensive rats. *Jpn. Heart J* 1990;31(2):227-236

**Agents:** Atrial natriuretic factor **Vehicle:** Saline; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2001; **Duration:** 7 days;

**ALZET Comments:** functionality of mp verified by measurement of residual volume; peptides

**P1653:** H. Jin, *et al.* Atrial natriuretic factor prevents NaCl-sensitive hypertension in spontaneously hypertensive rats. *Hypertension* 1990;15(2):170-176

**Agents:** Atrial natriuretic factor **Vehicle:** Acetic acid; Saline; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2002; **Duration:** 3 weeks, 1, 3, 7, 10, 14 days;

**ALZET Comments:** functionality of mp verified by blood levels and residual volume; pump replaced at 2 weeks; stability (p. 173 - approx 50% at 1-2 wks); peptides

**R0089:** A. Amkraut, *et al.* Osmotic delivery of peptides and macromolecules. *Advanced Drug Delivery Reviews* 1990;4(255-276)

**Agents:** Atrial natriuretic factor; cholecystokinin; Granulocyte-colony stimulating factor.; glucagon; insulin; interleukin-2; interleukin-3; melatonin; nerve growth factor; neurotensin; prolactin; theophylline **Vehicle:** Not Stated; **Route:** CSF/CNS; IA (femoral); intrasplenic; IP; SC; **Species:** Not Stated; **Pump:** Not Stated; **Duration:** no duration posted;

**ALZET Comments:** peptides; ALZA-authored, review of peptide delivery issues and applications; tissue perfusion (spleen)

**P1971:** G. Agnoletti, *et al.* Effects of prolonged infusions of atrial natriuretic peptide and isoproterenol on the mechanical and endocrine function of isolated atria. *Cardioscience* 1990;1(3):217-223

**Agents:** Atrial natriuretic factor; Isoproterenol, I- **Vehicle:** Not Stated; **Route:** SC; **Species:** Rat; **Pump:** 2001; **Duration:** 7 days;

**ALZET Comments:** peptides

**P1521:** M. Kohzuki, *et al.* Acute and chronic effects of synthetic atrial natriuretic factor on blood pressure and sodium excretion in spontaneously hypertensive rats. *Tohoku J. Exp. Med* 1989;157(279-288)

**Agents:** Atrial natriuretic factor, synthetic **Vehicle:** Saline; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2002; **Duration:** 14 days;

**ALZET Comments:** stability of ANF verified by measuring activity of recovered peptide; peptides

**P1724:** M. Kohzuki, *et al.* Blood pressure and renal responses to synthetic rat atrial natriuretic factor in deoxycorticosterone acetate-salt hypertension. *Tohoku J. Exp. Med* 1989;157(4):301-311

**Agents:** Atrial natriuretic factor **Vehicle:** Saline; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2002; **Duration:** 2 weeks;

**ALZET Comments:** stability verified by measuring activity of residual ANF; peptides

**P1564:** A. Fujimura, *et al.* Infusion of atrial natriuretic hormone in DOCA/salt and spontaneously hypertensive rats. *European Journal of Endocrinology* 1989;121(567-572)

**Agents:** Atrial natriuretic factor **Vehicle:** Gelatin; Saline; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2ML2; **Duration:** 6 days;

**ALZET Comments:** addition of gelatin to vehicle improved agent stability; stability verified in vitro for 14 days; peptides

**P1867:** N. C. Trippodo. An update on the physiology of atrial natriuretic factor. *Hypertension* 1987;10(1):1122-1127

**Agents:** Atrial natriuretic factor **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Rat; **Pump:** Not Stated; **Duration:** 7 days;

**ALZET Comments:** human and rat ANF used; peptides



**P1052:** E. L. Schiffrin, *et al.* Decreased density of vascular receptors for atrial natriuretic peptide in DOCA-salt hypertensive rats. *Hypertension* 1987;9(504-512)

**Agents:** Atrial natriuretic factor **Vehicle:** Saline; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2001; **Duration:** 4 days;

**ALZET Comments:** controls received sham-infusion; mp connected to catheter in jug. vein; peptides; functionality of mp verified by emptying of mp

**P1050:** R. Garcia, *et al.* Body fluids and plasma atrial peptide after its chronic infusion in hypertensive rats. *Proc. Soc. Exp. Biol. Med* 1987;185(352-358)

**Agents:** Atrial natriuretic factor **Vehicle:** Acetic acid; Saline; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2001; **Duration:** 7 days;

**ALZET Comments:** controls received mp sized tubing; mp connected to catheter in jugular vein; agent infused in SHR and WKY rats; peptides

**R0074:** M. Cantin, *et al.* The heart as an endocrine gland. *Hypertension* 1987;10(5):118-121

**Agents:** Atrial natriuretic factor **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Not Stated; **Pump:** Not Stated; **Duration:** no duration posted;

**ALZET Comments:** Brief mention of mp being used for ANF infusion; peptides

**P1032:** M. Yasujima, *et al.* Antihypertensive effect of synthetic atrial natriuretic factor in vasopressin-infused rats. *Jpn. Circ. J* 1986;50(1185-1190)

**Agents:** Atrial natriuretic factor; Vasopressin, arginine **Vehicle:** Acetic acid; Saline; **Route:** IP; IV (jugular); **Species:** Rat; **Pump:** Not Stated; **Duration:** 6/3 days;

**ALZET Comments:** controls received mp w/vehicle; mp connected to catheter in jugular; peptides; 2 pumps/animal; agents inf. simult. for 3 days; ANF pump removed after 3 days; ANF infused iv; vp infused ip; stability of ANF verified

**P0871:** M. Yasujima, *et al.* Effect of atrial natriuretic factor on angiotensin II-induced hypertension in rats. *Hypertension* 1986;8(9):748-753

**Agents:** Angiotensin II; Atrial natriuretic factor **Vehicle:** Acetic acid; Saline; **Route:** IP; IV (jugular); **Species:** Rat; **Pump:** 2001; **Duration:** 3-6 days;

**ALZET Comments:** controls received mp w/ appropriate vehicle; mp conn. to catheter in jug. vein; ANG-II infused ip; agents infused sep. and simul.; stability of ANF confirmed; peptides

**P0870:** O. Kuchel, *et al.* The blood pressure decrease-induced sympathetic discharge following atrial natriuretic factor administration may offset its natriuretic action. *Proc. Soc. Exp. Biol. Med* 1986;182(570-575)

**Agents:** Atrial natriuretic factor **Vehicle:** Not Stated; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2001; **Duration:** 7 days;

**ALZET Comments:** controls rec'd mp size plastic tube; mp connected to catheter in jugular vein; hypertension; peptides

**P1115:** O. Kida, *et al.* Natriuretic and hypotensive effects of chronically administered alpha-human atrial natriuretic polypeptide in sodium-deplete or replete conscious spontaneously hypertensive rats. *J. Hypertens* 1986;4(6):S529-S531

**Agents:** Atrial natriuretic factor **Vehicle:** Saline; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2001; **Duration:** 7 days;

**ALZET Comments:** controls received mp w/ saline; mo connected to catheter in jugular vein; SHR and WKY rats received high and low sodium diets; peptides

**P0911:** R. Garcia, *et al.* Effect of chronic infusion of atrial natriuretic factor on plasma and urinary aldosterone, plasma renin activity, blood pressure and sodium excretion in 2-K, 1-C hypertensive rats. *Clinical and Experimental Hypertension* 1986;A8(7):1127-1147

**Agents:** Atrial natriuretic factor **Vehicle:** Saline; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2002; **Duration:** 13 days;

**ALZET Comments:** controls received mp size piece of silastic tubing; mp connected to catheter in jug. vein; hypertension; stability of ANF verified upon removal of pump; peptides

**P0941:** R. Garcia, *et al.* Renin dependency of the effect of chronically administered atrial natriuretic factor in two-kidney, one clip rats. *Hypertension* 1986;9(88-95)

**Agents:** Atrial natriuretic factor **Vehicle:** Acetic acid; Saline; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2001; **Duration:** 6 days;

**ALZET Comments:** controls received mp size silastic tubing; mp connected to catheter in jugular; hypertension; peptides



**P0766:** W. Debinski, *et al.* Atrial natriuretic factor inhibits the sympathetic nervous activity in one-kidney, one-clip hypertension in the rat. *Proc. Soc. Exp. Biol. Med* 1986;181(173-177

**Agents:** Atrial natriuretic factor **Vehicle:** Not Stated; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2001; **Duration:** 7 days;  
**ALZET Comments:** mp connected to catheter in jugular vein via PE-60 tubing; hypertension; peptides

**P0765:** W. Debinski, *et al.* Involvement of the adrenal glands in the action of the atrial natriuretic factor. *Proc. Soc. Exp. Biol. Med* 1986;181(318-324

**Agents:** Atrial natriuretic factor **Vehicle:** Not Stated; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2001; **Duration:** 48 hours;  
**ALZET Comments:** comparison of injections vs. mp infusion; mp connected to catheter in jugular vein; peptides

**P0719:** M. Yasujima, *et al.* Atrial natriuretic factor inhibits the hypertension induced by chronic infusion of norepinephrine in conscious rats. *Circulation Research* 1985;57(3):470-474

**Agents:** Atrial natriuretic factor; Norepinephrine bitartrate **Vehicle:** Saline; **Route:** IP; IV (jugular); **Species:** Rat; **Pump:** 2001; **Duration:** 3 days;

**ALZET Comments:** Multiple pumps per animal (2); ANF administered iv via catheter from mp to jugular; mp implanted sc in interscapular region; NE administered orally or via ip mp to induce hypertension; peptides

**P0626:** R. Garcia, *et al.* Chronic infusion of low doses of atrial natriuretic factor (ANF Arg 101-Tyr 126) reduces blood pressure in conscious SHR without apparent changes in sodium excretion. *Proc. Soc. Exp. Biol. Med* 1985;179(3):396-401

**Agents:** Atrial natriuretic factor **Vehicle:** Not Stated; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2001; **Duration:** 1 week;  
**ALZET Comments:** controls received a sham pump; synthetic ANF 101-126 was used; peptides

**P0582:** R. Garcia, *et al.* Effect of chronic infusion of synthetic atrial natriuretic factor (ANF 8-33) in conscious two-kidney, one-clip hypertensive rats. *Proc. Soc. Exp. Biol. Med* 1985;178(1):155-159

**Agents:** Atrial natriuretic factor **Vehicle:** Not Stated; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2001; **Duration:** 1 week;  
**ALZET Comments:** comparison of previous injection study vs. current mp infusion; sham pump used as control; peptides

**P0679:** R. Garcia, *et al.* Reduction of blood pressure and increased diuresis and natriuresis during chronic infusion of atrial natriuretic factor (ANF Arg 101-Tyr 126) in conscious one-kidney, one-clip hypertensive rats. *Proc. Soc. Exp. Biol. Med* 1985;179(4):539-545

**Agents:** Atrial natriuretic factor **Vehicle:** Saline; **Route:** IV (jugular); **Species:** Rat; **Pump:** 2001; **Duration:** 1 week;  
**ALZET Comments:** synthetic ANF used; hypertension; controls were normotensive rats treated with ANF; peptides