



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

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

ALZET Comments: Atrial natriuretic factor, ANP; SC; Rat; 1002; 14 days; 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

ALZET Comments: Atrial natriuretic factor; SC; Mice; 2004; 1 month; 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

ALZET Comments: Vessel dilator; kaliuretic peptide; atrial natriuretic factor; long-acting natriuretic peptide; Saline; SC; Mice (nude); 1007D; 28 days; 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

ALZET Comments: Atrial natriuretic factor, mouse; SC; Mice; 1002; 12 days; 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

ALZET Comments: Atrial natriuretic factor; Saline; SC; Mice (nude); 1007D; 4 weeks; 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

ALZET Comments: Atrial natriuretic factor; vessel dilator peptide; kaliuretic peptide; natriuretic peptide, long-acting; Mice (nude); 2004; 4 weeks; Cancer (pancreatic adenocarcinoma); peptides; animal info (athymic).

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

ALZET Comments: Atrial natriuretic factor; IP; Rat; 20 hrs; 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. *Cardiovasc. Res* 1994;28(5):519-523

ALZET Comments: Atrial natriuretic factor; Candoxatrilat; Saline; IV (jugular); Rat; 7,14 days; 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. *Arterioscler. Thromb* 1993;13(5):640-650

ALZET Comments: Atrial natriuretic factor; Saline; SC; Rat; 2ML4; 25 days; peptides.

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

ALZET Comments: Atrial natriuretic factor; IV (jugular); Rat; 2ML2; 12 days; 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

ALZET Comments: Atrial natriuretic factor; Saline; IV (jugular); Rat; 2001; 7 days; 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

ALZET Comments: Atrial natriuretic factor; Acetic acid; Saline; IV (jugular); Rat; 2002; 3 weeks, 1, 3, 7, 10, 14 days; 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. *Adv. Drug Delivery Review* 1990;4(255-276

ALZET Comments: Atrial natriuretic factor; cholecystokinin; Granulocyte-colony stimulating factor.; glucagon; insulin; interleukin-2; interleukin-3; melatonin; nerve growth factor; neurotensin; prolactin; theophylline; CSF/CNS; IA (femoral); intrasplenic; IP; SC; no duration posted; 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

ALZET Comments: Atrial natriuretic factor; Isoproterenol, I-; SC; Rat; 2001; 7 days; 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

ALZET Comments: Atrial natriuretic factor, synthetic; Saline; IV (jugular); Rat; 2002; 14 days; 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

ALZET Comments: Atrial natriuretic factor; Saline; IV (jugular); Rat; 2002; 2 weeks; 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. *Acta Endocrinol* 1989;121(567-572

ALZET Comments: Atrial natriuretic factor; Gelatin; Saline; IV (jugular); Rat; 2ML2; 6 days; 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):122-127

ALZET Comments: Atrial natriuretic factor; Rat; 7 days; 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

ALZET Comments: Atrial natriuretic factor; Saline; IV (jugular); Rat; 2001; 4 days; 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

ALZET Comments: Atrial natriuretic factor; Acetic acid; Saline; IV (jugular); Rat; 2001; 7 days; 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

ALZET Comments: Atrial natriuretic factor; no duration posted; 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)

ALZET Comments: Atrial natriuretic factor; Vasopressin, arginine; Acetic acid; Saline; IP; IV (jugular); Rat; 6/3 days; 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

ALZET Comments: Angiotensin II; Atrial natriuretic factor; Acetic acid; Saline; IP; IV (jugular); Rat; 2001; 3-6 days; 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)

ALZET Comments: Atrial natriuretic factor; IV (jugular); Rat; 2001; 7 days; 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

ALZET Comments: Atrial natriuretic factor; Saline; IV (jugular); Rat; 2001; 7 days; 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. *Clin. Exp. Hypertens* 1986;A8(7):1127-1147

ALZET Comments: Atrial natriuretic factor; Saline; IV (jugular); Rat; 2002; 13 days; 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)

ALZET Comments: Atrial natriuretic factor; Acetic acid; Saline; IV (jugular); Rat; 2001; 6 days; 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)

ALZET Comments: Atrial natriuretic factor; IV (jugular); Rat; 2001; 7 days; 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)

ALZET Comments: Atrial natriuretic factor; IV (jugular); Rat; 2001; 48 hours; 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. *Circ. Res* 1985;57(3):470-474

ALZET Comments: Atrial natriuretic factor; Norepinephrine bitartrate; Saline; IP; IV (jugular); Rat; 2001; 3 days; 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



ALZET Comments: Atrial natriuretic factor; IV (jugular); Rat; 2001; 1 week; 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

ALZET Comments: Atrial natriuretic factor; IV (jugular); Rat; 2001; 1 week; 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

ALZET Comments: Atrial natriuretic factor; Saline; IV (jugular); Rat; 2001; 1 week; synthetic ANF used; hypertension; controls were normotensive rats treated with ANF; peptides.