



References on the Administration of Corticotropin Releasing Factor Using ALZET® Osmotic Pumps

Q3356: A. J. Park, *et al.* Altered colonic function and microbiota profile in a mouse model of chronic depression. *NEUROGASTROENTEROLOGY AND MOTILITY* 2013;25(9):733-E575

ALZET Comments: Corticotropin releasing hormone; Saline; CSF/CNS; Mice; 28 days; Controls received mp w/ vehicle; animal info (female, C57BL/6, 8-10 weeks old); behavioral testing (Step down test, tail suspension test, open field); peptides; cyanoacrylate adhesive; Corticotropin-rel. factor aka Corticotropin releasing hormone; Plastics 1 cannula, DURECT PE 60 tubing.

P9144: A. A. Teitelbaum, *et al.* Chronic peripheral administration of corticotropin-releasing factor causes colonic barrier dysfunction similar to psychological stress. *American Journal of Physiology-Gastrointestinal and Liver Physiology* 2008;295(3):G452-G459

ALZET Comments: Corticotropin-releasing factor; Stressin1; sauvagine, anti-; urocortin III; Saline; SC; Rat; 2002; 12 days; Controls received mp w/ vehicle; peptides; multiple pumps per animal (2); animal info (mast cell-deficient, +/+, 10 wks old, 200-250 g.); "The use of the minipump avoids daily interactions with the animals, possibly causing less variability in the results." pg G458; stressin1 is a selective CFR-R1 agonist; urocortin III is a CFR-R2 agonist; antisauvagine is a CRF-R2 antagonist.

P3582: M. Clark, *et al.* Chronic low dose ovine corticotropin releasing factor or urocortin II into the rostral dorsal raphe alters exploratory behavior and serotonergic gene expression in specific subregions of the dorsal raphe. *Neuroscience* 2007;146(4):1888-1905

ALZET Comments: Urocortin II, Corticotropin releasing factor, ovine; CSF, artificial; CSF/CNS; Rat; 1007D; 6 days; Dose: ovine CRF (100ng/hr), urocortin II (2ng/μL); Controls received mp w/ vehicle; animal info (male Sprague-Dawley rats (250 g)); post op. care (surgical methylacrylate glue (VetBond) used to close incision, 25 ug of buprenorphine once after surgery for pain control); functionality of mp verified by determining residual volume in the pump at the termination of the experiment; stability verified by HPLC HPLC analysis of samples taken at filing and after 6 days; peptides; Brain coordinates (AP -7.5, lateral -0.2, and depth -6.4);.

P7890: N. Boyadjieva, *et al.* Role of beta-endorphin, corticotropin-releasing hormone, and autonomic nervous system in mediation of the effect of chronic ethanol on natural killer cell cytolytic activity. *ALCOHOLISM-CLINICAL AND EXPERIMENTAL RESEARCH* 2006;30(10):1761-1767

ALZET Comments: Endorphin, B; corticotropin releasing hormone; CSF, artificial; CSF/CNS (paraventricular nucleus of hypothalamus); Rat; 2002; 16 hours; Controls received mp w/ vehicle; peptides; animal info (male, Fischer, 160-175g.).

P7604: N. J. Bernier, *et al.* CRF-related peptides contribute to stress response and regulation of appetite in hypoxic rainbow trout. *American Journal of Physiology-Regulatory Integrative and Comparative Physiology* 2005;289(4):R982-R990

ALZET Comments: Corticotropin-releasing factor, a helical (9-41); Saline, physiological; NaOH; CSF/CNS; Fish (rainbow trout); 1003D; 8 days; Controls received mp w/ vehicle; no stress (see pg. R984); peptides; animal info (male, female, hypoxia); CRF receptor antagonist; x-ray radiography; mp encased in a layer of dialysis tubing; cannula placement confirm; mp at 14C.

P6607: Y. Kagamiishi, *et al.* Detrimental role of corticotropin-releasing factor on the decrease of CA1 field potential induced by in vitro ischemia in rat hippocampal slices. *JOURNAL OF PHARMACOLOGICAL SCIENCES* 2004;94(1):39-44

ALZET Comments: Corticotropin-releasing factor; astressin; Saline; BSA; Ascorbic acid; CSF/CNS; Rat; 2002; 7 days; Controls received mp w/ vehicle; ALZET brain infusion kit 1 used; 2 week recovery period by filling tubing and cannula with sterile saline; pump connected to catheter after recovery period; astressin is a novel CRF antagonist; BSA and ascorbic acid was 0.1%; ischemia (cerebral).

P6851: K. H. Jeong, *et al.* Impaired leptin expression and abnormal response to fasting in corticotropin-releasing hormone-deficient mice. *Endocrinology* 2004;145(7):3174-3181



ALZET Comments: Corticotropin-releasing hormone, human/rat; BSA; acetic acid; Ascorbic acid; SC; Mice; 1002; 9 days; Controls received mp w/ vehicle; peptides.

Q6823: M. J. CULLEN, *et al.* Urocortin, Corticotropin Releasing Factor-2 Receptors and Energy Balance. *Endocrinology* 2001;142(3):992-999

ALZET Comments: Urocortin; Corticotropin-releasing factor; CSF/CNS (lateral ventricle); Rat; 2001; 13 days; Dose (0.01-1.0 nmol/day); Controls received mp w/ vehicle; animal info (Male Long-Evans rats: 300–347 g); pumps replaced every 7 days; Urocortin, Corticotropin are CRF-related peptide; peptides; Silicone catheter used to connect pump to cannula; Brain coordinates (AP=-0.8 mm, ML=+1.2mm, and DV=-4.5mm); Cannula placement verified via cresyl violet dye injection post mortem;.

P3228: V. Jain, *et al.* In vivo effects of corticotropin-releasing factor in pregnant rats. *Am. J. Obstet. Gynecol* 1998;178(186-191

ALZET Comments: Corticotropin-rel. factor; Corticotropin-rel. factor, 9-41; Saline, normal; SC; Rat (pregnant); 2ML1; no duration posted; controls received mp w/vehicle; peptides; cardiovascular.

P4165: A. Gerth, *et al.* Corticotropin releasing hormone antagonist does not prevent adrenalectomy-induced apoptosis in the dentate gyrus of the rat hippocampus. *Stress* 1998;2(159-169

ALZET Comments: Corticotropin-rel. hormone antagonist; Rat; no duration posted; no comment posted.

P5261: L. J. Muglia, *et al.* Impaired diurnal adrenal rhythmicity restored by constant infusion of corticotropin-releasing hormone in corticotropin-releasing hormone- deficient mice. *J Clin. Invest* 1997;99(12):2923-2929

ALZET Comments: Corticotropin-rel. hormone; Acetic Acid; Ascorbate; Albumin, bovine serum; SC; Mice (knockout); 2-6 days; Controls received mp w/ vehicle; replacement therapy (adrenalectomy); dose-response (p.2926); peptides.

P3744: A. C. E. Linthorst, *et al.* Long-term intracerebroventricular infusion of corticotropin-releasing hormone alters neuroendocrine, neurochemical, autonomic, behavioral, and cytokine responses to a systemic inflammatory challenge. *J. Neurosci* 1997;17(11):4448-4460

ALZET Comments: Corticotropin-rel. hormone; Saline, pyrogen-free; Ascorbic acid; SC; CSF/CNS; Rat; 2001; 7 days; controls received mp w/ vehicle; no stress (see pg. 4452); ALZET brain infusion kit used.

P3832: T.-S. Huang. Concomitant infusion of ovine corticotropin-releasing hormone does not prevent suppression of the hypothalamus-pituitary-adrenal axis by dexamethasone in male rats. *J. Endocrinol. Invest* 1997;20(393-396

ALZET Comments: Dexamethasone; Corticotropin-rel. factor, ovine; SC; Rat; 1003D; 2001; 3,7 days; replacement therapy; peptides.

P3927: B. Buwalda, *et al.* Physiological and behavioral effects of chronic intracerebroventricular infusion of corticotropin-releasing factor in the rat. *Psychoneuroendocrinology* 1997;22(5):297-309

ALZET Comments: Corticotropin-rel. factor, ovine; Saline; BSA; Ascorbic acid; CSF/CNS; Rat; 2002; 10 days; controls received mp w/ vehicle; peptides; ALZET brain infusion kit used; catheter filled w/ saline to delay agent delivery; delayed delivery;.

P4268: S. C. Heinrichs, *et al.* Corticotropin-releasing factor-binding protein ligand inhibitor blunts excessive weight gain in genetically obese Zucker rats and rats during nicotine withdrawal. *Proc. Natl. Acad. Sci. USA* 1996;93(15475-15480

ALZET Comments: Nicotine tartrate salt; Corticotropin-rel. factor, 6-33;; Saline; SC; CSF/CNS;; Rat; 2001; 2002;; 14 days; controls received mp w/ vehicle; functionality of mp verified by plasma levels; peptides; ALZET brain infusion kit used; recomb. human corticotropin releasing factor used; dummy cannula maintained cannula patency during one week recovery period; after 14 day SC nicotine infusion, r/h CRF (6-33) was infused ICV.

P2719: M. S. Labeur, *et al.* Long-term intracerebroventricular corticotropin-releasing hormone administration induces distinct changes in rat splenocyte activation and cytokine expression. *Endocrinology* 1995;136(6):2678-2688

ALZET Comments: Corticotropin-rel. factor; Saline, sterile; Ascorbic acid; CSF/CNS; Rat; 2001; 1 week; controls received mp w/ vehicle; replacement therapy (adrenalectomy); peptides.



P2287: S. Rivest, *et al.* CRF alters the infundibular LHRH secretory system from the medial preoptic area of female rats: possible involvement of opioid receptors. *Neuroendocrinology* 1993;57(236-246

ALZET Comments: Corticotropin-rel. factor; Ascorbic acid; Albumin, bovine serum; Saline; CSF/CNS (hypothalamic medial preoptic area); Rat; 2001; 7 days; two pumps connected to double internal cannula; animals were ovariectomized.

P3197: R. L. Hauger, *et al.* Regulation of pituitary corticotropin releasing hormone (CRH) receptors by CRH: interaction with vasopressin. *Endocrinology* 1993;133(1708-1714

ALZET Comments: Corticotropin-rel. factor; Vasopressin; Vasopressin antagonist; SC; Rat; 2001; 48 hours; controls received inactive mp or silastic tubing; peptides; the vasopressin antagonist was (mercapto cyclopenta-methylene propionic acid)-[methyl-tyrosine]arginine VP; agents given singly or together.

P3122: Y. Tizabi, *et al.* Desensitization of the hypothalamic-pituitary-adrenal axis following prolonged administration of corticotropin-releasing hormone or vasopressin. *Neuroendocrinology* 1992;56(611-618

ALZET Comments: Corticotropin-rel. factor; Vasopressin; SC; Rat; 48-50 hours; controls received silastic tubing; peptides; animals given CRF or CRF + vasopressin.

P1829: F. C. Iturriza, *et al.* Transplantation of the pituitary pars distalis induces the corticotrophs to store melanocyte-stimulating hormone, an effect reversed by the administration of corticotropin-releasing factor. *Neuroendocrinology* 1991;53(75-78

ALZET Comments: Corticotropin-rel. factor; Albumin, bovine serum; Saline; SC; Rat; 2001; 24 hours; no comment posted.

P1416: F. Rohner-Jeanrenaud, *et al.* Central corticotropin-releasing factor administration prevents the excessive body weight gain of genetically obese rats. *Endocrinology* 1989;124(2):733-739

ALZET Comments: Corticotropin-rel. factor, ovine; Ascorbic acid; Albumin, bovine serum; Saline; CSF/CNS; Rat; 2001; 1 week; peptides.

P1731: S. Rivest, *et al.* Effects of corticotropin-releasing factor on energy balance in rats are sex dependent. *Am. J. Physiol* 1989;257(R1417-R1422

ALZET Comments: Corticotropin-rel. factor, human; Corticotropin-rel. factor, rat; Ascorbic acid; Albumin, bovine serum; Saline; CSF/CNS; Rat; 2002; 14 days; infusion delayed about 4 days by 10.6 cm saline-filled catheter; delayed delivery;.

P1460: K. Arase, *et al.* Effects of intraventricular infusion of corticotropin-releasing factor on VMH-lesioned obese rats. *Am. J. Physiol* 1989;256(R751-R756

ALZET Comments: Corticotropin-rel. factor; Sodium chloride; CSF/CNS; Rat; 2001; 6 days; ICV cannula capped to prevent scratching; peptides.

P1175: N. Levin, *et al.* Corticosterone acts on the brain to inhibit adrenalectomy-induced adrenocorticotropin secretion. *Endocrinology* 1988;122(2):694-701

ALZET Comments: Corticotropin-rel. factor; Acetic acid; Ascorbate; Albumin, bovine serum; SC; Rat; 5 days; Pump model not stated; controls received sham-op; mp primed overnight in saline; pump inserted sc adjacent to wax or cort pellet; varying doses of agent infused; replacement therapy (hypothalamic lesions); peptides.

P1328: K. Arase, *et al.* Effects of corticotropin-releasing factor on food intake and brown adipose tissue thermogenesis in rats. *Am. J. Physiol* 1988;255(E255-E259

ALZET Comments: Corticotropin-rel. factor; Saline; CSF/CNS; Rat; 2001; 7 days; mp connected to cannula; dose-response (text); functionality of mp verified by serum levels; peptides.

P0903: L. Lima, *et al.* Effect of corticotropin-releasing factor on adrenal DBH and PNMT activity. *Peptides* 1987;8(3):437-441

ALZET Comments: Corticotropin-rel. factor, ovine; Saline; CSF/CNS; Rat; 7 days; mp model not stated; controls received mp with vehicle; peptides.



P1162: M. C. Holmes, *et al.* Involvement of vasopressin in the down-regulation of pituitary corticotropin-releasing factor receptors after adrenalectomy. *Endocrinology* 1987;121(6):2093-2098

ALZET Comments: Dye, Trypan blue; Corticotropin-rel. factor; Vasopressin; Saline; SC; Rat; 48 hours; Pump model not stated; concomitant and simultaneous infusion of agents; functionality of mp verified; replacement therapy (vasopressin deficiency); peptides.

P0975: B. J. Gertz, *et al.* Chronic administration of corticotropin-releasing factor increases pituitary corticotroph number. *Endocrinology* 1987;120(1):381-388

ALZET Comments: Corticotropin-rel. factor, rat; Ascorbic acid; Albumin, bovine serum; Saline; SC; Rat; 2002; 52 days; controls received mp w/vehicle; pumps replaced at 10-14 day intervals; long-term study; peptides.

P0558: K. N. Westlund, *et al.* Quantification of morphological changes in pituitary corticotropes produced by in vivo corticotropin-releasing factor stimulation and adrenalectomy. *Endocrinology* 1985;116(1):439-445

ALZET Comments: Corticotropin-rel. factor; IP; Rat; 2001; 2 days; comparison of adrenal excision vs. mp infusion; sham pump used in controls to determine stress of abdominal surgery p. 440; dose-response data, 2 doses of CRF.

P0684: M. F. Dallman, *et al.* Corticotrope response to removal of releasing factors and corticosteroids in vivo. *Endocrinology* 1985;117(5):2190-2197

ALZET Comments: Corticotropin-rel. factor, rat; Acetic acid; Ascorbate; Albumin, bovine serum; SC; Rat; 2001; 5 days; replacement therapy (adrenalectomy); mp primed in saline 4-12 h prior to implant.

P0427: C. Rivier, *et al.* Influence of corticotropin-releasing factor on reproductive functions in the rat. *Endocrinology* 1984;114(3):914-921

ALZET Comments: Corticotropin-rel. factor, 7-14; Corticotropin-rel. factor; Corticotropin-rel. factor, ovine; Ascorbic acid; Albumin, bovine serum; PBS; IV (jugular); Rat; 1 week; comparison of acute iv injec vs. multiple icv injec vs. iv mp infusion; comparison of agents effects.

P1227: V. Holtt, *et al.* Corticotropin-releasing factor differentially regulates proopiomelanocortin messenger ribonucleic acid levels in anterior as compared to intermediate pituitary lobes of rats. *Biochem. Biophys. Res. Commun* 1984;124(2):407-415

ALZET Comments: Corticotropin-rel. factor; Water; SC; Rat; 2001; 8 days; controls received mp w/ water; peptides.

P1647: T. O. Bruhn, *et al.* Corticotropin-releasing factor regulates proopiomelanocortin messenger ribonucleic acid levels in vivo. *Neuroendocrinology* 1984;39(170-175)

ALZET Comments: Corticotropin-rel. factor; Ascorbic acid; Saline; IV (jugular); Rat; 2001; 3-15 days; peptides.