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

Q7285: X. F. Li, et al. Role of the posterodorsal medial amygdala in predator odour stress-induced puberty delay in female rats. J Neuroendocrinol 2019;e12719

Agents: Corticotropin-releasing factor Vehicle: CSF, artificial; Route: CSF/CNS (posterodorsal medial amygdala); Species: Rat; Pump: 1002; Duration: 14 Days;

ALZET Comments: Dose (0.2 nmol/day); Controls received mp w/ vehicle; animal info (Sprague-Dawley prepubertal rats); Brain coordinates (2.5 mm posterior to bregma (AP), 3.2 mm lateral (ML) and 7.8 mm below the surface of the dura (DV)); Cannula placement verified via histological verification;

Q6926: K. Jopek, et al. Effect of ACTH and hCG on the Expression of Gonadotropin-Inducible Ovarian Transcription Factor 1 (Giot1) Gene in the Rat Adrenal Gland. Int J Mol Sci 2018;19(8):

Agents: Corticotropin Vehicle: Saline; Route: SC; Species: Rat; Pump: 1003; 2001; Duration: 2 days; 7 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (12 week old adult male rats weighing 120–150 g);

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

Agents: Corticotropin releasing hormone Vehicle: Saline; Route: CSF/CNS; Species: Mice; Pump: Not Stated; Duration: 28 days;

ALZET Comments: Controls received mp w/ vehicle; animal info (12 week old adult male rats weighing 120–150 g);

Q00128: J. S. Kinsey-Jones, et al. Corticotrophin-Releasing Factor Alters the Timing of Puberty in the Female Rat. Journal of Neuroendocrinology 2010;22(2):102-109

Agents: Corticotropin-releasing factor; astressin-B Vehicle: CSF, artificial; Route: CSF/CNS; Species: Rat; Pump: 2002; Duration: 14, 14 days;

ALZET Comments: Controls received no treatment/surgery; peptides; no stress (see pg. 105); animal info (female, Sprague-Dawley, 28 days old); dose-response (fig. 1); neuroendocrinology

Q0128: J. S. Kinsey-Jones, et al. Corticotrophin-Releasing Factor Alters the Timing of Puberty in the Female Rat. Journal of Neuroendocrinology 2010;22(2):102-109

Agents: Corticotropin-releasing factor; astressin-B Vehicle: CSF, artificial; Route: CSF/CNS; Species: Rat; Pump: 2002; Duration: 14, 14 days;

ALZET Comments: Controls received no treatment/surgery; peptides; no stress (see pg. 105); animal info (female, Sprague-Dawley, 28 days old); dose-response (fig. 1); neuroendocrinology

P9948: O. J. Bosch, et al. The CRF System Mediates Increased Passive Stress-Coping Behavior Following the Loss of a Bonded Partner in a Monogamous Rodent. Neuropsychopharmacology 2009;34(6):1406-1415

Agents: Corticotropin-releasing factor, d-phe; CP-154526; astressin-2b Vehicle: Not Stated; Route: CSF/CNS; Species: Prairie vole; Pump: 1007D; Duration: Not Stated;

ALZET Comments: ALZET brain infusion kit 3 used; cyanoacrylate adhesive; animal info (naive, adult, male, female, 70-100 g); catheter contained ringers solution for delayed delivery of 44 hours

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

Agents: Corticotropin-releasing factor; Stressin1; sauvagine, anti-; urocortin III Vehicle: Saline; Route: SC; Species: Rat; Pump: 2002; Duration: 12 days;

ALZET Comments: 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
Agents: Urocortin II, Corticotropin releasing factor, ovine Vehicle: CSF, artificial; Route: CSF/CNS; Species: Rat; Pump: 1007D; Duration: 6 days;
ALZET Comments: 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
Agents: Endorphin, B; corticotropin releasing hormone Vehicle: CSF, artificial; Route: CSF/CNS (paraventricular nucleus of hypothalamus); Species: Rat; Pump: 2002; Duration: 16 hours;
ALZET Comments: 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 Comparable Physiology 2005;289(4):R982-R990
Agents: Corticotropin-releasing factor, a helical (9-41) Vehicle: Saline, physiological; NaOH; Route: CSF/CNS; Species: Fish (rainbow trout); Pump: 1003D; Duration: 8 days;
ALZET Comments: 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
Agents: Corticotropin-releasing factor; astressin Vehicle: Saline; BSA; Ascorbic acid; Route: CSF/CNS; Species: Rat; Pump: 2002; Duration: 7 days;
ALZET Comments: 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 periord; 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
Agents: Corticotropin-releasing hormone, human/rat Vehicle: BSA; acetic acid; Ascorbic acid; Route: SC; Species: Mice;
Pump: 1002; Duration: 9 days;
ALZET Comments: 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
Agents: Urocortin; Corticotropin-releasing factor Vehicle: Not Stated; Route: CSF/CNS (lateral ventricle); Species: Rat;
Pump: 2001; Duration: 13 days;
ALZET Comments: 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. American Journal of Obstetrics & Gynecology 1998;178(186-191)
Agents: Corticotropin-rel. factor; Corticotropin-rel. factor, 9-41 Vehicle: Saline, normal; Route: SC; Species: Rat (pregnant); Pump: 2ML1; Duration: no duration posted;
ALZET Comments: 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)
Agents: Corticotropin-rel. hormone antagonist Vehicle: Not Stated; Route: Not Stated; Species: Rat; Pump: Not Stated; Duration: no duration posted;
ALZET Comments: 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
Agents: Corticotropin-rel. hormone Vehicle: Acetic Acid; Ascorbate; Albumin, bovine serum; Route: SC; Species: Mice (knockout); Pump: Not Stated; Duration: 2-6 days;
ALZET Comments: 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
Agents: Corticotropin-rel. hormone Vehicle: Saline, pyrogen-free; Ascorbic acid; Route: SC; CSF/CNS; Species: Rat; Pump: 2001; Duration: 7 days;
ALZET Comments: 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
Agents: Dexamethasone; Corticotropin-rel. factor, ovine Vehicle: Not Stated; Route: SC; Species: Rat; Pump: 1003D; 2001; Duration: 3,7 days;
ALZET Comments: replacement therapy; peptides

P3927: B. Buwalda, et al. Physiological and behavioral effects of chronic intracerebroventricular infusion of corticotropin-releasing hormone factor in the rat. Psychoneuroendocrinology 1997;22(5):297-309
Agents: Corticotropin-rel. factor, ovine Vehicle: Saline; BSA; Ascorbic acid; Route: CSF/CNS; Species: Rat; Pump: 2002; Duration: 10 days;
ALZET Comments: 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
Agents: Nicotine tartrate salt; Corticotropin-rel. factor, 6-33; Vehicle: Saline; Route: SC; CSF/CNS; Species: Rat; Pump: 2001; 2002;; Duration: 14 days;
ALZET Comments: 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
Agents: Corticotropin-rel. factor Vehicle: Saline, sterile; Ascorbic acid; Route: CSF/CNS; Species: Rat; Pump: 2001; Duration: 1 week;
ALZET Comments: controls received mp w/ vehicle; replacement therapy (adrenalectomy); peptides
P3019: H. Vidal, et al. Effect of growth hormone deficiency on hormonal control of hepatic glycogenolysis in hypophysectomized rat. Metabolism 1993;42(5):631-637
Agents: Triiodothyronine; Corticotropin Vehicle: NaOH; Route: IP; Species: Rat; Pump: 2002; Duration: 8-10 days;
ALZET Comments: 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(2):236-246
Agents: Corticotropin-rel. factor Vehicle: Ascorbic acid; Albumin, bovine serum; Saline; Route: CSF/CNS (hypothalamic medial preoptic area); Species: Rat; Pump: 2001; Duration: 7 days;
ALZET Comments: 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(10):1708-1714
Agents: Corticotropin-rel. factor; Vasopressin; Vasopressin antagonist Vehicle: Not Stated; Route: SC; Species: Rat; Pump: 2001; Duration: 48 hours;
ALZET Comments: controls received inactive mp or silastic tubing; peptides; the vasopressin antagonist was (mercapto cycloenta-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(4):611-618
Agents: Corticotropin-rel. factor; Vasopressin Vehicle: Not Stated; Route: SC; Species: Rat; Pump: Not Stated; Duration: 48-50 hours;
ALZET Comments: 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(3):75-78
Agents: Corticotropin-rel. factor Vehicle: Albumin, bovine serum; Saline; Route: SC; Species: Rat; Pump: 2001; Duration: 24 hours;
ALZET Comments: 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
Agents: Corticotropin-rel. factor, ovine Vehicle: Ascorbic acid; Albumin, bovine serum; Saline; Route: CSF/CNS; Species: Rat; Pump: 2001; Duration: 1 week;
ALZET Comments: peptides

P1731: S. Rivest, et al. Effects of corticotropin-releasing factor on energy balance in rats are sex dependent. American Journal of Physiology Regulatory, Integrative, and Comparative Physiology 1989;257(R1417-R1422
Agents: Corticotropin-rel. factor, human; Corticotropin-rel. factor, rat Vehicle: Ascorbic acid; Albumin, bovine serum; Saline; Route: CSF/CNS; Species: Rat; Pump: 2002; Duration: 14 days;
ALZET Comments: 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. American Journal of Physiology Regulatory, Integrative, and Comparative Physiology 1989;256(R751-R756
Agents: Corticotropin-rel. factor Vehicle: Sodium chloride; Route: CSF/CNS; Species: Rat; Pump: 2001; Duration: 6 days;
ALZET Comments: ICV cannula capped to prevent scratching; peptides

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

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Agents: Corticotropin-rel. factor  
Vehicle: Acetic acid; Ascorbate; Albumin, bovine serum;  
Route: SC;  
Species: Rat;  
Pump: Not Stated;  
Duration: 5 days;  

ALZET Comments: 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. American Journal of Physiology Endocrinology and Metabolism 1988;255(E255-E259)  
Agents: Corticotropin-rel. factor  
Vehicle: Saline;  
Route: CSF/CNS;  
Species: Rat;  
Pump: 2001;  
Duration: 7 days;  

ALZET Comments: 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  
Agents: Corticotropin-rel. factor, ovine  
Vehicle: Saline;  
Route: CSF/CNS;  
Species: Rat;  
Pump: Not Stated;  
Duration: 7 days;  

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

ALZET Comments: 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  
Agents: Corticotropin-rel. factor, rat  
Vehicle: Ascorbic acid; Albumin, bovine serum; Saline;  
Route: SC;  
Species: Rat;  
Pump: 2002;  
Duration: 52 days;  

ALZET Comments: 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  
Agents: Corticotropin-rel. factor  
Vehicle: Not Stated;  
Route: IP;  
Species: Rat;  
Pump: 2001;  
Duration: 2 days;  

ALZET Comments: comparison of acute iv injec vs. multiple icv injec vs. iv mp infusion; comparison of agents effects

P0684: M. F. Dallman, et al. Corticotrope response to removal of releasing factors and corticosteroids in vivo. Endocrinology 1985;117(5):2190-2197  
Agents: Corticotropin-rel. factor, rat  
Vehicle: Acetic acid; Ascorbate; Albumin, bovine serum;  
Route: SC;  
Species: Rat;  
Pump: 2001;  
Duration: 5 days;  

ALZET Comments: 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(5):914-921  
Agents: Corticotropin-rel. factor, 7-14; Corticotropin-rel. factor; Corticotropin-rel. factor, ovine  
Vehicle: Ascorbic acid; Albumin, bovine serum; PBS;  
Route: IV (jugular);  
Species: Rat;  
Pump: Not Stated;  
Duration: 1 week;  

ALZET Comments: comparison of acute iv injec vs. multiple icv injec vs. iv mp infusion; comparison of agents effects

P1227: V. Holt, et al. Corticotropin-releasing factor differentially regulates proopiomelamocortin messenger ribonucleic acid levels in anterior as compared to intermediate pituitary lobes of rats. Biochemical and Biophysical Research Communications 1984;124(2):407-415  
Agents: Corticotropin-rel. factor  
Vehicle: Water;  
Route: SC;  
Species: Rat;  
Pump: 2001;  
Duration: 8 days;  

ALZET Comments: 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

Agents: Corticotropin-rel. factor Vehicle: Ascorbic acid; Saline; Route: IV (jugular); Species: Rat; Pump: 2001; Duration: 3-15 days;

ALZET Comments: peptides