
**Agents:** Gonadotropin-releasing Hormone **Vehicle:** Saline; **Route:** SC; **Species:** Horse; **Pump:** 2ML2; **Duration:** 14 days;

**ALZET Comments:** Dose (20 mg/mL); 0.9% Saline used; animal info (Female, ); dependence;

Q7399: J. A. Blair, et al. CNS luteinizing hormone receptor activation rescues ovariectomy-related loss of spatial memory and neuronal plasticity. Neurobiol Aging 2019;78(111-120

**Agents:** Chorionic gonadotropin hormone, human **Vehicle:** CSF, artificial; **Route:** CSF/CNS (right lateral ventricle); **Species:** Mice; **Pump:** 1002; **Duration:** Not Stated;

**ALZET Comments:** Controls received mp w/ vehicle; animal info (Female, C57Bl/6J); behavioral testing (Morris water maze); hCG aka LHR agonist; enzyme inhibitor (Luteinizing hormone inhibitor); ALZET brain infusion kit 3 used; Brain coordinates (AP=-0.5, ML= -1.1, DV= -2.5); bilateral cannula used; Cannula placement verified via injecting fast green, observing cannula track by cryosectioning ; neurodegenerative (Spatial memory);


**Agents:** Chorionic gonadotropin hormone, human **Vehicle:** Saline; **Route:** IP; **Species:** Fish (catfish); **Pump:** Not Stated;

**ALZET Comments:** Dose (5000 IU/100 ul); Controls received mp w/ vehicle;


**Agents:** Gonadotrophin, human chorionic **Vehicle:** Saline; **Route:** IP; **Species:** Fish (catfish); **Pump:** Not Stated;

**ALZET Comments:** Dose (5000 IU); Controls received mp w/ vehicle; animal info (21 month old); “…the sustained-release of hCG through osmotic pump has been shown to be a reliable method to induce vitellogenesis and ovulation in females” pg. 75;


**Agents:** Gonadotropin-releasing hormone; cetrorelix **Vehicle:** Saline; **Route:** IP; **Species:** Mice; mice (knockout); **Duration:** 1wk

**ALZET Comments:** Dose (GRH: 250 ng/kg; cetrorelix: 10 mg/kg/day); animal info (12 week old FVB/NJ wild-type and Mdr2_/_ mice weighing 25-30g); Therapeutic indication (liver fibrosis);


**Agents:** Gonadotropin-releasing hormone **Vehicle:** Not Stated; **Route:** IP; **Species:** Rat; **Pump:** Not Stated; **Duration:** 1 week;

**ALZET Comments:** Controls received mp w/ saline; animal info (male, Fischer 344);


**Agents:** Gonadotropin-releasing hormone **Vehicle:** Not Stated; **Species:** Horse; **Duration:** 7 days; 12-18 days;

**ALZET Comments:** Animal info (female, Quarter horse and mixed breed, 5-10 years old);


**Agents:** Gonadotropin-releasing hormone **Vehicle:** Saline **Route:** SC **Species:** Horse (mare) **Pump:** 2ML2; 2ML4; **Duration:** 8w

**ALZET Comments:** Controls received mp w/ vehicle; animal info (female, Quarter Horse grade); pumps replaced every 14 days (2ML2) or 28 days (2ML4); Multiple pumps per animal (4 2ML2 or 2 2ML4); used contralateral side for next pump implantation; pumps removed at end of study;
Agents: Gonadotropin-releasing hormone Vehicle: Saline, sterile; Route: SC; Species: Horse (mare); Pump: 2ML2; Duration: 28 days;
ALZET Comments: Controls received sham pumps (silastic tubing); animal info (female, American Quarter Horses, 409-522 kg); pumps replaced every 14 days; post op. care (wound cleaned, disinfected with povidone iodine, antibacterial ointment - PO); pumps primed for 16 hours in 37°C saline; used contralateral location for next pump implantation;

Agents: Gonadotropin-releasing hormone Vehicle: Saline; HCl; Route: CSF/CNS; Species: Rat; Pump: 2002;
ALZET Comments: Controls received mp w/ vehicle; animal info (male, Wistar, PND63); ALZET brain infusion kit 2 used; behavioral testing (sexual behavior); stability verified by (incubation of GnRH at 37°C for 2 weeks - half of GnRH remains in unchanged form pg.78); teratology; Cannula placement verified via 0.1% infusion of bromophenol blue; 0.1 M HCl

Agents: Amikacin; Florfenicol; Gonadotropin-releasing hormone Vehicle: Not Stated; Species: Snake; Iguana;
ALZET Comments: Animal info (E uttata corn snake, C scutulaus Mojave rattlesnake, green iguana); stress/adverse reaction: (see pg. 23);

Agents: Gonadotropin-inhibitory hormone Vehicle: Saline; Route: CSF/CNS; Species: Hamster; Pump: 2002; Duration: 15 days;
ALZET Comments: Controls received mp w/ vehicle; animal info (female, Syrian hamsters, adult); functionality of mp verified pg503; behavioral testing (partner preferences, vaginal scent marking, lordosis test); peptides; Cannula placement verified via angiotensin injection; GnIH aka RFamide related peptide-3; pumps primed overnight

Agents: Gonadotrophin, human chorionic Vehicle: Not Stated; Route: Not Stated; Species: Fish (Eel); Pump: 1002; Duration: 6 weeks;
ALZET Comments: animal info (male, 303g, freshwater) ; "The osmotic pump releases 5 μl of solution per day for approximately 45–50 days when the fish are maintained at awater temperature of 20 °C" (pg 218); Therapeutic indication (sperm motility); Dose (330 IU/week);

Agents: Salmon pituitary extract; gonadotrophin, human chorionic; gonadotropin-releasing hormone analogue Vehicle: Sodium chloride; Route: IP; Species: Fish (eel); Pump: 2002; Duration: Not Stated;
ALZET Comments: Control animals received mp w/ saline, vehicle; animal info (female, cultured); functionality of mp verified via residual volume; "osmotic pump was implanted into the peritoneal cavity of each eel after cutting an approximately 8-mm opening in the abdomen with a fine scalpel. The wound was not sutured, but healed naturally within 2 weeks." pg 31; "This study confirms the effectiveness of using osmotic pumps to induce the maturation of captive female eels..." pg 33; comparison of mp vs injections

Agents: Gonadotropin releasing hormone Vehicle: BSA; Sodium chloride; Route: IP; Species: Fish (eel); Pump: 2002;
ALZET Comments: Controls received mp w/ vehicle; animal info (freshwater eels, Anguilla spp.); 0.1% BSA used; dose-response (pg 118); "implantation of these osmotic pumps loaded with protein hormones, instead of repeated injections of hormones, is a reliable sustained-release delivery system for inducing sexual maturation in fish." pg 119; picture of pump implantation pg 118; Dose (GnRHa 0.9, 1.8 or 3.6 ug/day; hCG 50 IU/day; salmon pituitary extract 2.24 mg/day);

**Agents:** Chorionic gonadotropin hormone, human recomb. **Vehicle:** Saline; **Route:** SC; intrauterine; **Species:** Monkey (baboon); **Pump:** 2ML1; **Duration:** Not Stated;

**ALZET Comments:** Animal info (30 mo old, spontaneous endometriosis); tissue perfusion (oviductal lumen)


**Agents:** Chorionic gonadotropin hormone, human recomb. **Route:** Oviductal; **Species:** Monkey (baboon); **Duration:** 5 days;

**ALZET Comments:** Animal info (cycling, female, 7-12 years old, 12-18 kg); tissue perfusion (oviduct)


**Agents:** Gonadotrophin, human chorionic **Vehicle:** Not Stated; **Route:** Oviductal; **Species:** Monkey (baboon); **Pump:** Not Stated; **Duration:** 5 days;

**ALZET Comments:** Animal info (papio annubis)


**Agents:** Gonadotrophin, human chorionic **Vehicle:** Not Stated; **Route:** SC; **Species:** Mice; **Pump:** 1007D; **Duration:** 1 week;

**ALZET Comments:** Animal info (immature, 24-27d)


**Agents:** Chorionic gonadotropin hormone, human; salmon pituitary extract; gonadotropin-releasing hormone agonist **Vehicle:** Not Stated; **Route:** IP; **Species:** Fish (eel); **Pump:** 2006; **Duration:** 42 days;

**ALZET Comments:** Animal info (male, Japanese); long-term study; comparison of IP injections vs IP mp; incorrectly listed Model 2002; “HCG administration of 50 IU day-1 by using OS was an efficient and reliable method for the artificial maturation of male Japanese eel, instead of the weekly injections method.” pg 171


**Agents:** Gonadotrophin, human chorionic **Vehicle:** Not Stated; **Route:** Oviductal; **Species:** Monkey (baboon); **Pump:** Not Stated; **Duration:** 5 days;

**ALZET Comments:** Animal info (female, adult)


**Agents:** Gonadotropin-releasing hormone **Vehicle:** Saline, physiological; **Route:** SC; **Species:** Horse; **Pump:** 2004; **Duration:** 120 days;

**ALZET Comments:** Controls received sham pumps; long-term study; pumps replaced every 30 days; animal info (mare, 18 mo to 24 years); pumps were disinfected using chlorhexidine gluconate, sham pumps were made from silicon tubing filled with medical grade silicone adhesive to approximate the size of the ALZET pumps, then cold-sterilized (similar to pumps) before surgical insertion


**Agents:** Amikacin; gonadotropin-releasing hormone **Vehicle:** Not Stated; **Route:** Not Stated; **Species:** Snake; Iguana; **Pump:** 1002; **Duration:** Not Stated;

**ALZET Comments:** Peptides; animal info (corn snake); review, see p. 211; ref #9; “Alzet osmotic pumps can deliver medications continuously without the need for periodic injections. They hold promise for future delivery options in reptiles.” (p. 211)
Agents: Gonadotropin-releasing hormone II, analog Vehicle: PBS; Route: SC; Species: Monkey; Pump: Not Stated; Duration: 6 days;
ALZET Comments: Controls received mp w/ vehicle; dose-response (fig. 1); stress/adverse reaction: (see pg. 160) 1 control (of 13) and 1 treated (of 19) animals died of diarrhea; half-life (pg. 160) 4 hours; peptides; animal info (Rhesus, female, 5-7 yrs. old); mp primed 16 hours in PBS; Endocrinology

Agents: Gonadotrophin, chorionic Vehicle: Not Stated; Route: Oviductal lumen; Species: Monkey (baboon); Pump: 2ML1; Duration: 7 days;
ALZET Comments:

Agents: Gonadotrophin, human chorionic, recomb.; Interleukin-1, beta, recomb. human; Interleukin-1 receptor antagonist, recomb. human Vehicle: Not Stated; Route: Oviductal; Species: Monkey (baboon); Pump: Not Stated; Duration: 10 days;
ALZET Comments: Controls received no treatment; pumps replaced at day 5; animal info (female, adult)

Agents: L-NAME; D-NAME; Gonadotrophin, human chorionic Vehicle: Water, sterile; Route: SC; Species: Mice; Pump: 1003D; 1007D; Duration: 3,4,7 days;
ALZET Comments: Functionality of mp verified by plasma levels taken; enzyme inhibitor (nitric oxide synthase) "L-NAME"; multiple pumps per animal in some groups; human choriongonadotropin is (hCG)

Agents: Chorionic gonadotropin hormone, human; Follicle stimulating hormone, recomb. Vehicle: Not Stated; Route: Not Stated; Species: Baboon; Pump: Not Stated; Duration: 4 days;
ALZET Comments: Animal info (ovariectomized)

Agents: Gonadotrophin, human chorionic; Follicle stimulating hormone, recomb. Vehicle: Not Stated; Route: Not Stated; Species: Baboon; Pump: Not Stated; Duration: 4 days;
ALZET Comments: Controls received mp w/ FSH; animal info (adult, female); Bioactive vs heat-inactivated HCG were compared to FSH treatment. Pump usage described in other study "The HCG treatment protocol has previously been described (Christensen et al., 1995; Fazleabas et al., 1999) and involves infusion of HCG between days 6 and 10 post-ovulation via a cannula attached to an Alzet minipump." p.2680;

Agents: Gonadotrophin, human chorionic Vehicle: Not Stated; Route: Intravarian; Species: Monkey (baboon); Pump: Not Stated; Duration: 4 days;
ALZET Comments: Animal info (ovariectomized)

Agents: Estradiol, 17B-; Progesterone; Gonadotrophin, human chorionic Vehicle: Not Stated; Route: SC; Species: Mice; Pump: 2002; Duration: 14 days;
ALZET Comments: Controls received sham operation; functionality of mp verified by serum levels; replacement therapy (ovariectomy); vascular cuff injury; B human chorionic gonadotrophin used;

**Agents:** Gonadotrophin, recomb. human chorionic  
**Vehicle:** Not Stated;  
**Route:** Intraovarian (corpus luteum);  
**Species:** Monkey (baboon);  
**Pump:** 2ML1;  
**Duration:** 7 days;  
**ALZET Comments:** tissue perfusion (corpus luteum)


**Agents:** Follicle stimulating hormone; Gonadotrophin, human chorionic  
**Vehicle:** Not Stated;  
**Route:** SC;  
**Species:** Rat;  
**Pump:** 2001;  
**Duration:** 3, 4, 7 days;  
**ALZET Comments:** peptides


**Agents:** Follicle stimulating hormone; Gonadotrophin, human chorionic  
**Vehicle:** Saline;  
**Route:** SC;  
**Species:** Rat;  
**Pump:** 2001;  
**Duration:** 1 day;  
**ALZET Comments:** pumps removed and reimplanted into different animals


**Agents:** Gonadotrophin, human chorionic  
**Vehicle:** Albumin, bovine serum; Saline;  
**Route:** Intraovarian (corpus luteum);  
**Species:** Monkey;  
**Pump:** 2ML1;  
**Duration:** 7 days;  
**ALZET Comments:** Tissue perfusion (corpus luteum); functionality of mp verified by sectioning


**Agents:** Follicle stimulating hormone, porcine; Gonadotrophin, human chorionic  
**Vehicle:** Saline, sterile;  
**Route:** SC;  
**Species:** Rat;  
**Pump:** 2001;  
**Duration:** 72 hours;  
**ALZET Comments:** comparison of sc PMSG injections vs. mp; peptides

P0520: F. Garza, et al. Luteinizing hormone increases the number of ova shed in the cyclic hamster and guinea-pig. J. Endocrinol 1984;101(289-298)

**Agents:** Gonadotrophin, pregnant mare serum; Luteinizing hormone; Follicle stimulating hormone, ovine; Gonadotrophin, human chorionic  
**Vehicle:** Albumin, bovine serum; PBS;  
**Route:** SC;  
**Species:** Guinea pig; hamster; mice; Rat;  
**Pump:** 2001;  
**Duration:** 2, 5 days;  
**ALZET Comments:** Comparison of agents effects; replacement therapy (hypophysectomy); agents admin. singly; peptides; bovine, ovine, & human LH used