References on the Administration of Endorphins Using ALZET® Osmotic Pumps


**Agents:** B-Endorphin  
**Vehicle:** Saline  
**Route:** SC  
**Species:** Mice  
**Pump:** 1002  
**Duration:** 4 weeks  

**ALZET Comments:** Controls received mp w/ vehicle; animal info (male spontaneously hyperlipidemic Apoe−/− mice, 13 weeks of age); pumps replaced every 2 weeks; Blood pressure measured tail-cuff method;91.4 mmHg - 92.1 mmHg; Resultant plasma level (294.3 mg/dL Glucose);  


**Agents:** Endorphin, beta (1-31)  
**Vehicle:** Saline, sterile  
**Route:** CSF/CNS  
**Species:** Rat  
**Pump:** 2001; 1003D  
**Duration:** 3, 7 days  

**ALZET Comments:** Animal info (Sprague Dawley, male, 200-250 g); pumps replaced  


**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.)  


**Agents:** Endorphin, B  
**Vehicle:** CSF, artificial  
**Route:** CSF/CNS  
**Species:** Rat  
**Pump:** Not Stated  
**Duration:** 12 days  

**ALZET Comments:** Cardiovascular  


**Agents:** Endorphin, B  
**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; mp connected w/ two infusion cannulae using a Y-connector  


**Agents:** β-endorphin; naltrexone  
**Vehicle:** CSF, artificial  
**Route:** CSF/CNS (bilateral paraventricular nuclei)  
**Species:** Rat  
**Pump:** 2002  
**Duration:** 4 hours; 16 hours  

**ALZET Comments:** Dose (100 ng of β-EP/0.5 µl/h); Controls received mp w/ vehicle; animal info (Male Fischer-344 rats of 150–175 g body weight); naltrexone is an opiate antagonist; Brain coordinates (1.8 mm behind bregma, 1.5 mm lateral to the midline, and 7.7 mm below the skull surface); bilateral cannula used;

**Agents:** Endorphin, B-; Naltrexone  
**Vehicle:** CSF, artificial  
**Route:** CSF/CNS (paraventricular nucleus)  
**Species:** Rat  
**Pump:** 2002  
**Duration:** 4,16 hours  

**ALZET Comments:** Controls received mp w/ vehicle; used a Y-connector to connect pump with a bilateral cannula;


**Agents:** Endorphin, B-; Enkephalin, leucine-; Enkephalin, methionine-; Dynorphin A  
**Vehicle:** Not Stated  
**Route:** SC; CSF/CNS;  
**Species:** Rat  
**Pump:** 2001; 2ML1  
**Duration:** 6 days  

**ALZET Comments:** controls received saline infusion; peptides; ALZET brain infusion kit used


**Agents:** Endorphin, B-  
**Vehicle:** Saline, physiological  
**Route:** SC; CSF/CNS;  
**Species:** Rat  
**Pump:** 2001;  
**Duration:** 7 days  

**ALZET Comments:** controls received mp w/ saline; peptides


**Agents:** Acetylcholine chloride; Cefalotin; Cholecystokinin tetrapeptide; Epinephrine HCl; Bombesin; Endorphin, B-; Enkephalin, methionine-; Norepinephrine HCl  
**Vehicle:** Saline; Sodium bisulfite;  
**Route:** CSF/CNS (hypothalamus);  
**Species:** Rat  
**Pump:** 2002;  
**Duration:** 5-20 weeks  

**ALZET Comments:** Cholinergic agent; pumps replaced periodically; mp connected to perm. steel cannula in hypothalamus; cannula fitted w/removable protector; (see p.217); agents infused sep. (cefalotin infused w/each agent); long-term study;


**Agents:** Endorphin, a-; Endorphin, ovine B-; Enkephalin, methionine-; Naloxone HCl  
**Vehicle:** Saline; Route: CSF/CNS;  
**Species:** Rat  
**Pump:** 2001;  
**Duration:** 1-2 days  

**ALZET Comments:** comparison of agents effects; peptides


**Agents:** Endorphin, a-neo-; DsThr; Dynorphin; Enkephalin analog DADLE; FK-33824; MR-2034; MRZ; Normorphine; Sufentanil  
**Vehicle:** Water;  
**Route:** SC;  
**Species:** mice;  
**Pump:** 2001;  
**Duration:** 6 days  

**ALZET Comments:** peptides; MRZ is 5,9-dimethyl,2'S-5,9-dimethyl-2'-hydroxy-2-(2-methoxy-propyl)-6,7-benzomorphan


**Agents:** Morphine sulfate; methionine-enkephalin; endorphin, B-  
**Vehicle:** Water;  
**Route:** CSF/CNS (frontal cortex); CSF/CNS (periaqueductal gray);  
**Species:** Rat;  
**Pump:** Not Stated;  
**Duration:** 70 hours  

**ALZET Comments:** peptides; dependence; 1 ul/hr pumps used


**Agents:** Endorphin, a-; Endorphin, B-; Enkephalin, leucine-; Enkephalin, methionine-; Morphine sulfate  
**Vehicle:** Not Stated;  
**Route:** Not Stated;  
**Species:** Not Stated;  
**Pump:** Not Stated;  
**Duration:** no duration posted;  

**ALZET Comments:** no comment posted