References on the Administration of Morpholinos Using ALZET® Osmotic Pumps

Agents: Farnesoid X receptor morpholino, FXR mismatch, Cyclodextrin 2-hydroxypropyl-beta Vehicle: Endo-Porter solution; Route: CSF/CNS; Species: Mice; Pump: Duration: ALZET Comments: Dose (2-HbC, 6 mg/kg/day; FXR morpholino 1mg/kg; FXR mismatch 1 mg/kg); animal info (C57BL/6 mice 25–30 g); ALZET brain infusion kit used; Brain coordinates (anteroposterior -0.34, mediolateral -1.0, and dorsoventricular -2.0);

Q4862: Matthew McMillin, et al. Bile Acid Signaling Is Involved in the Neurological Decline in a Murine Model of Acute Liver Failure. American Journal of Pathology 2016;186(2);
Agents: Vivo-morpholino Vehicle: Route: CSF/CNS (frontal cortex); Species: Mice; Pump: Duration: 3 days; ALZET Comments: Controls received mp w/ mismatched control morpholino; animal info (male, C57BL6, 25-30g); tissue perfusion (frontal cortex);

Agents: Oligonucleotide, antisense vivo-morpholino Vehicle: PBS; Route: CSF/CNS; Species: Rat; Pump: 2004; Duration: 4 weeks;
ALZET Comments: Controls received mp w/ vehicle; animal info (male, Long Evans, 276-300g); Cannula placement verified via injection of dye;

Agents: oligonucleotdies, antisense morpholino Vehicle: PBS; Route: Intrauterine; Species: Sheep (ewe, pregnant); Pump: 2ML1; Duration: 7 days;
ALZET Comments: Controls received mp w/ control oligonucleotides; animal info (female, Columbia Rambouillet); teratology; cyanoacrylate adhesive; used vinyl catheter tubing (0007760) to cannulate uterine lumen; pump affixed to mesosalpinx using cyanoacrylate glue;

Agents: Oligonucleotide, Vivo-morpholino Vehicle: CSF/CNS (lateral ventricle); Species: Rat; Pump: Duration: 3 days;
ALZET Comments: Controls received mp w/ control morpholino; animal info (Ovis aries, 7 days after mating); cyanoacrylate adhesive; used vinyl catheter tubing; pump glued to mesosalpinx and sutures; pumps primed in 37C sterile PBS for 24 hours.

Agents: Oligonucleotide, antisense morpholino PPARD; oligonucleotide, antisense morpholino PPARG Vehicle: PBS; Route: Intrauterine (uterine horn); Species: Sheep (ewe); Pump: 2ML1; Duration: 7 days;
ALZET Comments: Controls received mp w/ control morpholino; animal info (Ovis aries, 7 days after mating); cyanoacrylate adhesive; used vinyl catheter tubing; pump glued to mesosalpinx and sutures; pumps primed in 37C sterile PBS for 24 hours.

Agents: Morpholinos Vehicle: Route: Kidney (renal subcapsular space); Species: Rat; Pump: Duration: ALZET Comments: Gene therapy; diabetes; Used silicone catheter 3 french; morpholinos are DNA mimics, miRNA inhibitors.

Agents: Oligonucleotide, antisense, morpholino; oligonucleotide, missense, morpholino  Vehicle: Saline;  Route: CSF/CNS;
Species: Rat;  Pump: 2001;  Duration: 7 days;
ALZET Comments: Controls received mp w/ missense oligo; antisense (Nucleobindin 2); animal info (female, Wistar, 28 days old, adult); endocrinology.