MOLab Bookkeeping for Animal Experiments

(For ACUP #71108: Molecular Biology of Bone and Skeletal Development)

Date	Cage#	Ear Tag#	Anesthetic agent(s)/ dose used	Analgesics used	General conditions	Indicators of pain/distress	Animal weight	Mass volume	Xenogen microCT imaging	Date of Sacrifice	Investigator (You!)

Highlights from ACUP #71108 (Molecular Biology of Bone and Skeletal Development)

Anesthetic choices: (1) 1-4% **Isoflurane** gas (continous, inhalation); or (2) **ketamine/xylazine** (80-120mg/kg ketamine and 5-10 mg/kg zylazine) i.p. injection

For scaffold implantation, **Meloxicam (1-2mg/kg, subcu) will be used as a peri-operative analgesic** and given subcutaneously after the animal has been anesthetized, but before the initial incision is made. Meloxicam will last for 24 hours. It is can be re-dosed at 25 hours if there is still evidence of pain.

For scaffold implantation, **Buprenophine (0.05-0.1mg/kg, subcu)** will be administered if mice display signs of pain 4 hours post-op with additional doses every 8-12 hours as needed.

For scaffold implantation, **post-op re-dosing** of meloxicam and buprenorphine will be on either/or base and as needed.

After implantation of stem cells with or without scaffolds, mice will be monitored daily for the first three days, then 2 times/week thereafter.

Animals implanted with adenovirus infected cells should be considered ABSL2 (biohazardous) within the **first 72 hours** after injection

If incisions are made for scaffold implantation and staples/sutures are used to close incisions, staples/sutures should be removed **10-14 days postoperatively**

Growth of the implanted cells to form bony masses will be monitored for up to 6 weeks

If there is a likelihood to form tumor-like masses, the **total tumor volume should be <1.5 cm3**

The mice will be kept in special microisolator cages, with no more than 5 mice per cage.

Monitor mice for excessive grooming, chewing, licking of the excision site, degradation of the incision site, and overall mouse health (hair loss, lethargy) which would be indicators of pain or distress.

If any animal shows signs of pain/distress, it will be euthanized by CO2 overdose/cervical dislocation. These signs will include: 1) animals that do not move when their cage is approached or tapped (i.e. they do not scurry about, rather they sit hunched in a corner), 2) they do not right themselves when laid on their backs, 3) they show stressed breathing, 4) their overall appearance is not optimal (i.e., they are unkept or scruffy-looking), or 5) significant limping or swelling of the intratibially injected leg, which hampers the animal's activity and/or ability to uptake food/water. Any mice that do not show improved health status will be euthanized