

Shipping Mouse Embryos

(Rivera lab)

Mice can be shipped or imported as pre-implantation embryos instead of post-weaning individuals. This should be done in accordance with the veterinary personnel in your institution. Plan ahead, breed enough females to collect embryos and agree on a shipping date with the requestor of the embryos. Avoid sending or receiving embryos on a weekend or holidays. It is best to ship them on a Monday or Tuesday. Warn promptly if the shipment is cancelled (for example if no plugs were obtained or if no embryos were recovered).

Instructions for sender

1. Equilibrate ES media plus antibiotics but without LIF in a CO₂ incubator for at least 2 hours.
2. Flush blastocysts and compacted morulae from the uterus of naturally mated females. If the embryos look abnormal or are delayed in development cancel the shipment. Try to send enough embryos for one transfer (~10 embryos). If less than 10 embryos are recovered, the requestor can add carriers to the transfer to make up the deficiency.
3. Prepare a cryovial with 2 ml of the pre-equilibrated media. Deposit embryos in the bottom of the vial with a micropipette.
4. Top the vial with more media and screw the cap (avoid trapping air). Seal the vial with parafilm to prevent leaks.
5. Send overnight by FedEx in an envelope with bubble wrap. In winter, warm ice packs in incubator overnight at 37 °C then put the pre-warmed ice packs in a styrofoam container.
6. Inform the requestor when the embryos are sent, so that they can prepare for the embryo transfer procedure.

Instructions for recipient

1. Set matings with vasectomized males two days before the shipment day so that E2.5 pseudopregnant females are ready for uterine transfers the day the embryos arrive. For example, if blastocysts are shipped on a Monday, set matings the previous Saturday. If no plugs are obtained for E2.5 pseudopregnants, set matings on the day of shipment so that the blastocyst can be transferred to the oviduct of E0.5 pseudopregnant females.
2. Place embryos in incubator as soon as they arrive. To avoid osmotic shock, keep embryos in original media.