

Preparation of Animal Tissue Samples for RNA Extraction (with shipping instructions)

Method

Remove organ from animal and dissect region of interest on a cool surface (e.g. petri dish on ice). Within 15 minutes of animal sacrifice either snap-freeze tissue or transfer the tissue to RNALater as instructed in option 1 or option 2 below, respectively. Follow the appropriate additional instructions in option 1 or 2 for sample handling.

Option 1 – Snap frozen tissue.

Fill an ice cube tray with liquid nitrogen and drop a 10 mg – 150 mg fragment of tissue in to the liquid nitrogen. After allowing the tissue to equilibrate for >15 seconds in liquid nitrogen, using pre-chilled steel forceps, transfer the tissue to a pre-labeled 5 ml 12 x 75 mm polypropylene centrifuge tube (Light Labs, part # A-8081) that has been pre-equilibrated on dry ice. The tissue samples should be stored at -80C or on dry ice until shipment.

Option 2 – Storage on RNALater

Cut the tissue into fragments in which at least one dimension is < 5 mm across. Pre-fill 2 ml RNase-free screw cap tubes (e.g. Light Labs, part # A-8043 tubes and A-8100-R screw caps) with 1.5 ml of RNALater solution (Life Technologies, part # AM7020). Transfer up to 150 mg of tissue to the tube containing RNALater. Seal the tube and mix by gentle inversion. Insure that the tissue is submerged in the RNALater solution and store the tubes containing tissue overnight in a 4°C refrigerator. Transfer the tubes containing tissue to a -80°C freezer for long-term storage.

Shipping

Select a box for shipment that has an external dimension of at least 25 cm in each dimension. The box should have a sturdy cardboard exterior and inner Styrofoam box with wall thickness of at least 2.5 cm. Fill the storage box with 1.5 kg of dry ice. Cool a 133 mm x 133 mm x 48 mm (2 ml tubes) or 73 mm (5 ml tubes) vial storage box in the shipping container.¹ Transfer the frozen sample tubes to the vial storage box. Fill in the free areas of the vial storage box with dry ice and secure the vial storage box top over the samples using wire or string. Fill the Styrofoam shipping container with additional dry ice, and packing peanuts (if necessary) in order to minimize free space in the package. The total dry ice content should be at least 2.5 kg. Use FedEx overnight delivery to ship the package to ORB at the address below. Affix the dry ice sticker to the exterior of the package and record the same dry ice weight on the sticker as was used during set-up of the shipment (may require metric to English unit conversion).

Attention: David Willoughby
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Emergency Phone: 561-427-5548

Special Notes

¹, The 73 mm deep storage boxes can be ordered from Lab Scientific (part # CBL278).