Shipping Refrigerated Spermatozoa

Introduction

A technique for transporting fresh sperm within the epididymis at refrigerated temperatures (4-8 °C) has been developed in recently years. This technique does not require the use of a dry shipper. The samples can be shipped by a conventional low cost delivery service. What is more, the cold package kit doesn’t need to be returned. On arrival the sperm can be quickly extracted from the epididymides and used in a regular IVF protocol to generate embryos for archiving/embryo transfer. Alternatively, the sperm can be cryopreserved and used at a later date (Takeo et al, 2012 & 2014).

1. Media
   1.1. Lifor preservation medium (Cell Preservation Solutions, LLC)
   1.2. Sphingosine-1-phosphate (S1P; Cambridge Bioscience, S6130)

2. Animals
   Males over 12 weeks of age

3. Equipment
   3.1. Microfuge tube with attached flat cap polypropylene 0.2ml Brand (e.g., Fisher Scientific, TUP-114-010Q)
   3.2. Paper tissues
   3.3. Parafilm
   3.4. Dissecting microscope
   3.5. Dissecting instruments e.g. standard dissecting forceps, fine watchmakers forceps and scissors.
   3.6. Sperm transportation kit (Air Sea Containers: B/0472)

4. Protocol steps
   4.1. The selected male should be at least 12 weeks old, and not have been used for mating for at least 3 days before sperm collection.
   4.2. Sacrifice the male and swab the abdomen with 70% alcohol.
   4.3. Cut through the abdominal skin, and then cut through the body wall, to reveal the internal organs.
   4.4. Dissect the cauda epididymides from the mouse (Figure 1).
4.5. Fill the 0.2ml microfuge tube with 0.2ml Lifor preservation medium, supplemented with 10μM S1P (at room temperature). Then load the epididymides into microfuge tube and seal the tube with parafilm.

4.6. Place the tube containing the epididymides and i-button into biotube which is supplied within the cold transportation kit (Figure 2).

4.7. Place the biotube into an aluminium lined box (Room Temperature) (Figure 3a), then place two gel cool packs (Room Temperature) into the aluminium box so they surround the biotube (Figure 3b).
4.8. Seal the lining box with sellotape.
4.9. Then place the aluminium lined box into the polystyrene container following the assembly instructions. Then seal the polystyrene box with packing tape (Figure 4). This thermal control unit will maintain a temperature of 4-8°C for up to 72hrs (Figure 5). The sperm will maintain its fertility for at least 72hrs under these conditions.
4.10. Send the samples to the client via a standard delivery services.

5. References
