

[SOP/E-UC/ST/04-06]

## ***Equine Umbilical Cord Collection Protocols:***

### **Method:**

#### **Step 1. – Umbilical Cord Procurement Site preparation**

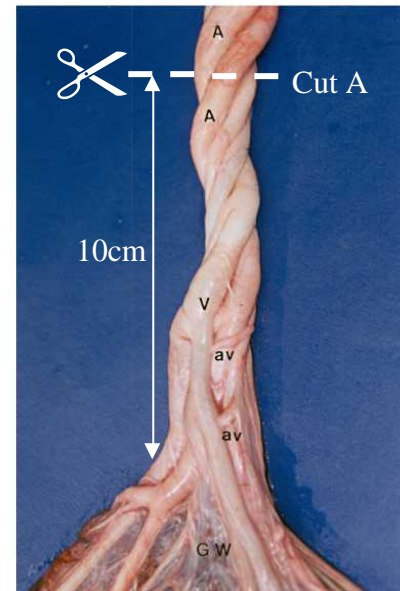
Select a 'clean/safe' area in the foaling box and place transport box (containing 2 cool packs, polyethylene collection pot(s) and container of AQIX<sup>®</sup> RS-I transport solution), surgical gloves and scissors on a suitable clean surface (e.g., plastic tray, table top).

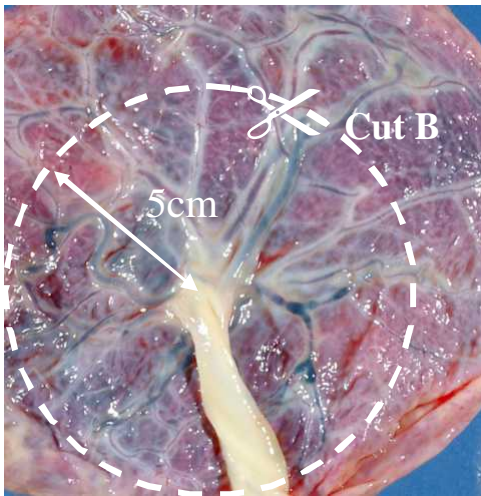
#### **Step 2. – Collecting the umbilical cord**

Allow the mare to foal normally and note this time and the time that the mare cleanses.

#### **Sample Retrieval Procedures:**

- a) Put on surgical gloves and swiftly move the placenta (cleansing) to the clean / safe area selected.
- b) After the mare and foal have been checked and are quiet, the umbilical cord can now be collected. [Note: The stem cells are most abundant at the junction between the cord and the placenta].
- c) Using sharp and clean scissors, carefully cut the cord about 4 inches (10cm) from the placenta (Cut A, diagram above).
- d) Holding the cut end of the cord, pull the placenta upwards and make a cut into the body of the placenta about 2 inches (5cm) from the junction between the cord and the placenta [Cut B, diagram below].
- e) Cut through the remaining placenta leaving a 2 inch (5cm) circular rim of placental tissue around the cord.
- f) Remain holding the umbilical cord and separate the 'UCP-sample' (cord plus placental rim).
- g) Now remove any visible straw, debris, etc.





- h) While still holding the UCP-sample, gently rinse away downward any remaining blood, gross contamination with some of the 'extra' transport AQIX<sup>®</sup> RS-I solution provided.
- i) Place UCP-sample into a collection pot pre-filled with AQIX<sup>®</sup> RS-I solution.
- j) Screw lid firmly onto the pot and make sure that the pot does not leak.

### Step 3 - Transportation Procedures:

- l) Place the one *frozen* cool pack on the bottom of the polystyrene transportation box and the other *unfrozen* cool pack on top of the solid, frozen cool pack to act as a 'cushion' for the collection pot.
- m) Place the collection pot on top of the *unfrozen* cool pack and fill and space with paper or cotton wool, etc., to stop the pot moving about during transport and to retain a low temperature.
- n) Place the lid on the transportation container and tape closed the cardboard sleeve to ensure contents are safe.
- o) Dispatch transportation to recipient laboratory for isolation of primary cell types.
- p) Upon arrival of the UCP-sample, remove the sample from transportation containers and
  - either, 1. Prepare UCP-tissue for immediate extraction and incubation of stem cells in preferred TC-media
  - or, 2. Subdivide UCP-tissue for short-term preservation (1 - 5 days) in AQIX RS-I @ 3-8 °C
  - or, 3. Long-term @ -80 °C in a suitable cryopreservation solution

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