

BLACKBURN LAB DRIED BLOOD SPOT COLLECTION PROTOCOL

1. **PURPOSE:** This protocol describes procedures for collection and storage of dried blood spots for telomere length measurement (TL).

2. MATERIALS

Item	vendor	Cat#
Whatman 903 protein saver cards	Sigma-Aldrich	WHA10534612
BD Microtainer® contact-activated lancet	BD	366593
Sterile Alcohol Prep Pads	Fisher	22-363-750
Kimwipe		
Gloves		
Marker pen		
Sharp box		
Foil barrier reusable bags	Sigma-Aldrich	WHA10534321
Drying rack for Whatman 903 protein saver cards	Sigma-Aldrich	WHA10539521

3. PROCEDURES

- 3.1 Ask participant which hand they use most – you will be collecting blood from the other hand.
- 3.2 Look at the fingers to select the one you'll sample from (usually the fourth or the third [middle] finger), checking for calluses and scars to be avoided.
- 3.3 Explain to participant that, to promote circulation, they should soak the chosen finger in warm water for about 5 minutes.
- 3.4 While they are soaking their finger, take **TWO** 903 cards and write the ID #, date, and time of collection on both cards. Fold back the cards so that the circles are exposed and ready to receive blood drops.
- 3.5 Have a lancet, kimwipe/tissue, opened alcohol swab, gloves, and labeled card out, ready for use.
- 3.6 After 5 minutes, ask participant to take their finger out the water, then dry it.
- 3.7 Put on your gloves and remove the cap from the lancet.
- 3.8 Clean the area to be pricked with the alcohol swab. Let alcohol dry.
- 3.9 Quickly prick the finger: in one hand, hold the finger to be sampled, palm up, massage the finger between your thumb and index fingers, press the lancet *firmly* just to the side of the center of the finger.
- 3.10 Under pressure contact with the finger, lancet automatically performs the stick and retracts. Quickly wipe away the first bit of blood with the kimwipe/tissue. Discard lancet into sharps box.
- 3.11 Turn the pricked finger over to allow a large blood drop to form. Massage the pricked finger gently but firmly in the direction of the fingertip to assist in blood collection. Use the same technique as above, milking the finger by sliding firmly along it with your index finger below, thumb above, moving from its base to below the pricked spot.
- 3.12 Collect as large a drop as possible, then lightly touch the surface of the blood drop to the surface of the sample sheet at the center of the dotted circle. Drop should be big enough to fill circle.

However, even if the drop is not big enough, DO NOT add another drop in the same circle. This will compromise the uniformity of blood concentration in the paper.

- 3.13 Repeat to fill all 6 circles.
- 3.14 Leave the cards out overnight to dry on the drying rack.
- 3.15 The next morning, close the card by folding the top of the card over the blood spots and tucking it into the bottom of the card.
- 3.16 Put the card into a foil barrier bag. Put the foil barrier bags into ziploc bags and store in a -80°C freezer.