The Use of Eppendorf Pipette Tips as Incubation Tubes

This procedure provides a faster and easier method of incubating waveguides with solutions than that described in the manual. The original waveguide incubation tube (part number # 114-026-01) is replaced by an Eppendorf P20 pipette tip (part number 22 49 152 –1). The P20 tip becomes the incubation tube. A P100 tip (part number 22 49 154-7) is modified to serve as a mechanical adapter between the pipettor and the P20 tip.

Materials:

1. Cleaned Waveguides
2. P 20 Pipette tip Eppendorf number 22 49 152-1*
3. Crit-O-Seal
4. Protein solution in the coating buffer at appropriate concentration (~90λ / waveguide)
5. Coating buffer without protein (for negative control waveguides, also ~90λ / waveguide)
6. Gloves
7. P100 pipette tip adapter (made as in the illustration below 1)
8. Single edge safety razor blade

Equipment:

1. Pipette tip rack suitable to fit the P-20 pipette tips without bottoming out
2. P100 pipettor
3. Waveguide forceps

Method:

1. The P100 pipette tip measures 53 mm long. Cut off 21 mm with the single edge razor blade (or other sharp blade) as shown in Figure 1A. This measurement corresponds to the second 'step' on the conical surface of the pipette tip from the distal end.
   It is important to cut the pipette tip to allow it to seat properly into the P-20 pipette tip but not allow cross contamination of protein solutions to occur or to contaminate the pipettor
2. Place the modified P100 pipette tip onto the P100 pipettor as in figure 1B.
3. Set the P100 to 90 λ.
4. Check that the modified P100 pipette tip fits into the head of the P-20 pipette tip as in Figure 1B.
   The P20 pipette tip should be snug on the P100 pipette tip adapterDraw up 90 λ of incubation solution into the P20 tip. This volume will nearly fill the tip without contaminating the P100 adapter.

5. Plug the tip with the Crit-O-Seal by plunging the filled tip at least twice.
6. Remove the filled and plugged P20 tip by forceps and place into the tip rack.
7. Fill as many tips as required for coupon assembly.
8. Remove the pre-cleaned waveguide from the storage rack and insert it into the fluid filled P20 tip

   Care must be taken not to bend or scratch the waveguide as it is inserted into the P20 tip

9. Incubate as per protocol

* It may be possible to use other pipette tips, however it is important not to use a silicon coated tip as the 'Crit-O-Seal' may not adhere to the tip and the incubation solution would leak from the tip. Other considerations include the volume of the pipette tip and the overall length of the pipette tip.

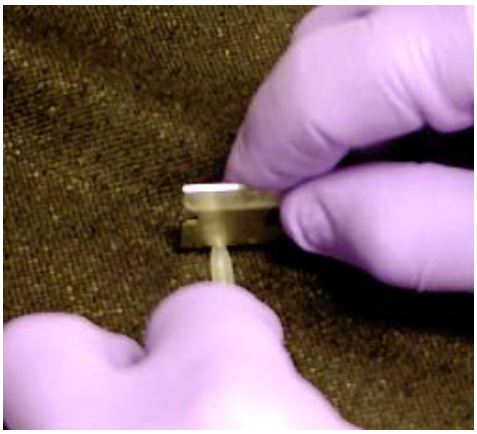

Figure 1A

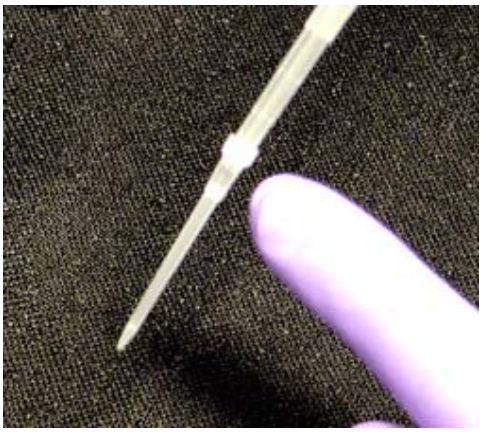

Figure 1B

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