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Cell Authentication Testing Service

STR Profiling
Sample Preparation Instructions

Step 1: Place your order

Contact ATCC Customer Service by email (STRtesting@atcc.org) or by phone (1-800-638-6597, option 2) to obtain the following materials:

- Cell Authentication Testing Service Confirmation Number*
- STR Profiling Order Form
- FTA Sample Collection Kit

**Orders for the Cell Authentication Testing Service will not be processed without a confirmation number.*

Step 2: Prepare your samples

There are two forms in which you can submit your samples for testing: DNA spotted onto FTA paper (provided at the time of order in the FTA Sample Collection Kit) or purified frozen DNA. Instructions for both options are provided below.

Option 1: FTA Sample Collection Kit Instructions

It is ***vital*** that the cell sample be spotted at a density between 0.8 and 1.7 x 10^6 cells/ml. The proportion of media/PBS is not important but the analysis requires an amount of DNA in a very narrow range.

1. Clearly record the sample information on the STR Profiling Order Form.
2. Prepare samples one at a time. The optimal target cell density is 1 x 10^6 cells/ml.
   a. **For attached cells**: Trypsinize and centrifuge at 125 x g. Discard the supernatant and resuspend the cell pellet in a small volume of PBS. Count the cells and dilute the sample to 1.0 x 10^6 cells/ml. However, if the cells are too dilute, re-centrifuge and resuspend in a smaller volume of PBS.
   b. **For suspension cells**: Harvest and count the cells. If cells are above 1 x 10^6 cells/ml, dilute the sample to 1.0 x 10^6 cells/ml with PBS. If cells are below 1.0 x 10^6, centrifuge and resuspend in a volume of PBS that will result in a density of 1 x 10^6 cells/ml.
3. Before handling the FTA card, thoroughly clean your work surface. With gloved hands, carefully open the envelope in the FTA Sample Collection Kit and remove the FTA card. *Important: Wear gloves when handling FTA cards to avoid cross-contamination with your own DNA.*
4. Clearly label each FTA card with (1) your Confirmation Number*, (2) the date and (3) the cell designation/name listed on the STR Profiling Order Form. Use only one card for each cell culture; do not spot samples from different cell cultures on the same FTA card, since this increases the risk of cross-contamination.
5. There are 4 circles on each FTA card. In the center of each circle, spot 20 µl of the cell suspension prepared in #2.
6. Allow the FTA card to dry in a laminar flow hood at room temperature for 60 minutes.
7. When the FTA card is dry, place the following items in the plastic zip-seal bag provided with the FTA Sample Collection Kit:
   a. One** FTA card
   b. One desiccant pack
   ***To avoid cross-contamination, use one plastic zip-seal bag per sample that is being submitted.*
8. Be sure to completely close the zip-seal bags to preserve the samples.
9. Repeat this process for each sample being submitted for testing. It is best to manipulate only one cell culture at a time to avoid cross-contamination.
10. When all cell cultures have been spotted onto individual FTA paper and placed in zip-sealed bags with desiccant, place (1) the STR Profiling Order Form and (2) each of the zip-sealed bags containing FTA cards and desiccant into the pre-addressed mailing envelope(s) provided with the FTA Sample Collection Kit.
11. Before sealing the pre-addressed mailing envelope, be sure to verify the following:
    a. The STR Profiling Order Form is complete and you have an Cell Authentication Testing Service Confirmation Number*
    b. Each cell line submitted for testing has been spotted at the appropriate density into the four circles on ONE FTA card
    c. Each FTA card is clearly labeled with (at the minimum) the information in #4
    d. The zip-sealed bags containing individual FTA cards and desiccant have been completely closed
12. Affix appropriate postage and place the sealed pre-addressed envelope in the mail.
    Note: Each envelope should contain the bags with FTA card and desiccant and the STR Testing Order Form.

Option 2: Purified DNA Sample Preparation Instructions

Cultures should be submitted in 1.5 to 1.8 mL microcentrifuge tubes with freezable, smear-proof labels.

1. Prepare a freezable, smear-proof, microcentrifuge tube label for each culture. Labels should contain (1) the Cell Authentication Testing Service Confirmation Number*, (2) the cell designation/name listed on the STR Profiling Order Form, (3) the date and (4) a space to record the DNA concentration after the sample is prepared.

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2. Prepare each sample using extraction and purification methods with which you are familiar. Each microcentrifuge tube should contain ≥20 µL purified human genomic DNA with a concentration ranging from 10 to 300 µg/mL. The A_{260}/A_{280} ratio for each sample should fall within a range of 1.7 to 2.0.

3. Record the concentration of each sample on the corresponding microcentrifuge tube label and on the STR Profiling Order Form. *Note: Although we do not ask you to provide us with your A_{260}/A_{280} ratios, failure to submit samples that fall within an acceptable purity range for DNA may produce erroneous test results and will delay processing.*

4. Seal the lid of each microcentrifuge tube with Parafilm® sealer, or equivalent.

5. Freeze each sealed microcentrifuge tube at -20°C.

6. Place labeled, frozen tube(s) in either a zip-sealing bag or a small box.

7. Ship samples on dry ice via overnight freight. Samples should be shipped to the following address:

   ATCC
   ATTN: Cell Authentication Testing Service, L236
   10801 University Blvd.
   Manassas, VA 20110 USA

Samples must arrive at ATCC on Monday through Friday, 9 AM to 3 PM Eastern Standard Time.

Step 3: Test results

Results will be emailed within 5 business days from receipt of sample and approval of order. Upon request, a written copy of the report will be faxed or mailed to the client who has requested this service.

Questions?

For questions about your sales order please contact ATCC Customer Service by email (STRtesting@atcc.org) or by phone (1-800-638-6597, option 2). For technical questions, please contact ATCC Technical Service at tech@atcc.org.