

## Cell Line STR Analysis Ordering Instructions/Hopkins-Internal

The Fragment Analysis Facility (FAF), a division of the Genetic Resources Core Facility (GRCF), provides cell line STR analysis services to customers who wish to establish a identity profile for a cell line established locally, or to confirm the identity of a line by comparison to known profile. The FAF accepts either purified DNA or frozen cell pellets for analysis. An extra purification fee applies if sending cell pellets. The FAF offers STR analysis using one of three kits: PowerPlex 1.2 System (Promega), StemElite (Promega), and Identifiler (Applied Biosystems). See the below table for STRs included in each kit.

STR markers in each identification kit.

Marker	PowerPlex 1.2	StemElite	Identifiler
Amelogenin	X	X	X
CSF1PO	X	X	X
D13S317	X	X	X
D16S539	X	X	X
D18S51			X
D19S433			X
D21S11		X	X
D2S1338			X
D3S1358			X
D5S818	X	X	X
D7S820	X	X	X
D8S1179			X
FGA			X
THO1	X	X	X
TPOX	X	X	X
vWA	X	X	X
Mouse marker		X	
<b>Total</b>	9	10 plus mouse	16

### Instructions for DNA Purification from Cells and STR analysis

1. Please fill out sheet tabs “Customer Info” and “DNA Purification Request” within the *Cell Line STR Analysis Request* document completely. Indicate which STR kit you would like. If you have any questions regarding filling out the request form please contact Laura Kasch by email [lkasch@jhmi.edu](mailto:lkasch@jhmi.edu) or phone 410-614-3830. We will not process samples without budget number or credit card information. If you prefer to call with the credit card number that is fine. We do not keep credit card numbers on file.
2. Sample requirements for cell submission: Please provide a minimum of  $1 \times 10^6$  cells for DNA purification and no more than  $5 \times 10^6$  cells. Cells should be pelleted and media removed. Pellets should be shipped on dry ice. If cells are not delivered at time of pelleting they can be stored at  $-80^\circ\text{C}$  until shipment on dry ice.
3. Email the completed request form to [lkasch@jhmi.edu](mailto:lkasch@jhmi.edu). Print the filled out *Customer Info* page from the *Cell Line STR Analysis Request* to include with your samples.

Drop samples off in Blalock 1005 with *Customer Info* page Monday through Friday from 9 AM – 4:00 PM.

## Instructions for STR analysis from purified DNA

1. Please fill out sheet tabs “Customer Info” and “STR Analysis Request” within the *Cell Line STR Analysis Request* document. Indicate which STR kit you would like. Please fill out the request sheet completely. Additional instructions on how to fill out the request sheet are given as comments within the Excel spread sheet. To view this information, mouse over the cells with red triangles in the upper right corner. If you have any questions regarding filling out the Excel form please contact Laura Kasch by email [lkasch@jhmi.edu](mailto:lkasch@jhmi.edu) or phone 410-614-3830.
2. See below for sample requirements.
3. Email the completed order form to [lkasch@jhmi.edu](mailto:lkasch@jhmi.edu). Print the filled out *Customer Info* page from the *Cell Line STR Analysis Request* to include with your samples.

Drop samples off in Blalock 1005 with *Customer Info* page Monday through Friday from 9 AM – 4:00 PM.

### Sample Requirements: DNA submission

We request more DNA than is needed to allow for repeating the assay in the event of failure, determining the OD, and checking quality of DNA if needed. Please submit samples in individual tubes. Send a minimum of 500ng of DNA at a concentration of 100 ng/μl. If the amount of sample is less than this or at a different concentration, please indicate this on the request form in the appropriate fields.

Please label individual tubes with the respective number found in the “Sample Number” column of the *STR Analysis Request* form. Identifying tubes in this way will prevent problems with legibility. If you wish, the tubes may also be labeled with your sample IDs.

### Additional Information

Samples for STR profiling are run once a week on Tuesday, with results emailed usually on Monday of the following week. Samples received after 4 PM on Mondays will be held until the following week for processing. Any failed samples from a Tuesday run will be re-run the following Tuesday with all results being emailed by that following Monday.

Results are presented in an excel table. Included with the results are allele designations, the raw data for the alleles (size in base pairs, peak height, peak area), and screen shots of the electropherograms.

Pricing includes pcr, sizing on an Applied Biosystem 3730XL, and genotypes. Two control samples, HeLa and K562, are also included with all STR analysis. We strongly recommend that you review all the data.

For DNA extraction we use a DNA Easy Blood and Tissue kit on a QIAcube (Qiagen). DNA isolated using a Puregene Kit (Qiagen/Gentra) also performs very well.

The STR profile generated by the FAF can be used to confirm the identity of a line by comparison to a known profile, or to establish a profile for a cell line established locally. If you wish to confirm the identity of your line and do not have a reference profile or sample for comparison, we recommend that you check the public databases prior to profiling. Please note that cell lines can be genetically unstable and, therefore, STR profiles can vary with passage.

The ATCC STR Profile Database contains profiles generated with Promega's PowerPlex System v1.2.

The technical manuals for the three available analysis kits contain additional information about the markers and can be downloaded from the manufacturer website.

**FAF services may only be used for research purposes. Any data or samples generated by the facility may not be used for human diagnostic or therapeutic use.**