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Dear Mrs. Thedieck,

Thank you very much for your request for DNA fingerprinting of human cell lines. We have carried out DNA profiling using 8 different and highly polymorphic short tandem repeat (STR) loci. Furthermore, we have tested your samples for presence of mitochondrial DNA sequences from rodent cells as mouse, rat, chinese and syrian hamster. Results (table 1):

#	sample	parental/reference	match/comment
1	HeLa alpha-Kyoto	HELA (DSMZ ACC 057)	full-matching of STR reference profile of HELA, authentic
2	MCF-7	MCF-7 (DSMZ ACC 115)	full-matching of STR reference profile of MCF-7, authentic
3	HEK293T	293T (DSMZ ACC 635)	full-matching of STR reference profile of 293/293T, authentic*

*modified STR profile

We could not detect any mitochondrial sequences from mouse, rat or chinese and syrian hamster cells in your human samples at a detection limit of $1:10^5$. The samples 1 to 3 are derived of pure human cell cultures.

Generated STR profiles of samples 1, 2 and 3 showed full matches of respective parental reference STR profiles as indicated by a search of the database of cell banks ATCC (USA), JCRB (Japan), RIKEN (Japan), KCLB (Korea) and DSMZ. Your samples HeLa alpha-Kyoto, MCF-7 and HEK293T have been taken from authentic cell cultures.

Since HEK293T is an isogenic counterpart of HEK293, we have detected large T-antigen of SV-40 using a PCR assay (agarose gel documentation attached).

*Marked samples in table 1 reveal the phenomenon of Microsatellite Instability (MSI) due to a deficiency in DNA Mismatch Repair, resulting in drifted or lost alleles at STR loci, which are highlighted in green in table 2 (table 2 enclosed).

The exclusion rate of the applied STR system is indicating authenticity/uniqueness without any doubt, the matching probability of the system ranges from 1 in 114,000,000 for Caucasian and American.

Please find enclosed the documentation (STR electropherograms) and the allelic list (table 2).
Sincerely yours,
W. Dirks