Short tandem repeat analysis of WTC hiPSC line

Description of method/analysis: Used Promega Powerplex 16 System to verify short tandem repeat (STR) polymorphisms for 15 loci (plus amelogenin)[1] in WTC hiPSC line. Analysis was done by WiCell Cytogenetics[2].

Sample	Donor fibroblasts	WTC line
Concentration (ng/μL)	52.40	181.90
A260/280	1.71	1.93
FGA	22,25	22,25
TPOX	8,11	8,11
D8S1179	11,13	11,13
vWA	17,19	17,19
Penta_D	9,11	9,11
CSF1PO	10,12	10,12
D16S539	9,10	9,10
D7S820	10,12	10,12
D13S317	8,11	8,11
D5S818	9,10	9,10
Penta_E	13,15	13,15
D18S51	12,21	12,21
D21S11	29,29	29,29
TH01	6,7	6,7
D3S1358	15,16	15,16
Allelic polymorphisms	29	29

Results: These samples define STR profiles of the human stem cell lines as indicated by name. The genotypic profiles comprise 29 allelic polymorphisms across the 15 STR loci analyzed.

Interpretation: These results suggest that the stem cells submitted correspond to the cell line as named and were not contaminated with any other human stem cells or a significant amount of mouse feeder layer cells.

Sensitivity: Sensitivity limits for detection of STR polymorphisms unique to either this or other human stem cell lines is ~2-5%.

[1]WTC has an Amelogenin Y (AMELY) variant that causes the WTC line to be misidentified as female (XX). AMELY variants and sex mistyping have previously been reported in several populations. For more information on AMELY variants, see Tozzo, P. et al. (2013) "Deletion of amelogenin Y-locus in forensics: Literature revision and description of a novel method for sex confirmation". Journal of Forensic and Legal Medicine. 20(5): 387-391.

[2]https://www.wicell.org/home/characterization/identity/short-tandem-repeat-str/short-tandem-repeat-str.cmsx