SUPPLEMENTAL MATERIAL

Please browse the full text version of this manuscript to see Supplemental Tables 1 and 2.

S3. Changes in the expression of cell cycle regulators.
Numbers represent up- or down-regulated genes when compared to the total number of genes with expression changes in the specified subcategory. Arrows next to category title indicate whether the numbers reflect fractions of up- or down-regulated genes.

Sub-Category	PD 47	PD 54
Cell cycle progression		
Inhibitors ↑	0	4 / 10
Activators ↓	0	6 / 10
G1 progression		
Inhibitors ↑	0	3 / 11
Activators ↓	0	13 / 15
S phase progression ↓	0	12 / 12
DNA replication ↓	0	46 / 47
G2 progression ↓	0	9 / 11
Mitosis ↓	0	81 / 87

S4. Senescence-associated gene expression.
Entries of up-regulated or down-regulated genes with age are based on microarray signatures from the Human Ageing Genomic Resources [47]. Other gene information is based on Genecards (http://www.genecards.org/; [32]. Numbers indicate log2-fold changes in transcript levels when comparing either PD 47 or PD 54 to PD 38 cells.

Gene	Involvement in ageing	PD 47	PD 54
ANXA3	Up-regulated with age		-0.46
C5ORF13	Down-regulated with age		-0.62
CDKN1B	Up-regulated with age		-0.57
COL1A1	Down-regulated with age		-0.46
COL3A1	Down-regulated with age		–1.05
DKC1	May regulate telomerase activity		–0.45
GBP2	Up-regulated with age		–0.75
HIST1H1C	Up-regulated with age		0.58
ID2	Down-regulated with senescence	0.60	0.79
MNT	May induce senescence		0.46
PRKDC	Telomere maintenance		–0.41
RAD54L	Telomere maintenance		–0.65
SUV39H1	H3K9methylation dependent induction of senescence		–0.75
TFRC	Down-regulated with age		–0.51
TIMP3	May be involved in senescence		0.95
TMED10	Up-regulated with age		0.58
TXNIP	Up-regulated with age		1.52

S5. Primers for qRT-PCR.

Gene	Fwd/ Rev	Sequence	Annealing Temp	Reference
HPRT1	Fwd Rev	5'-TGACACTGGCAAAACAATGCA-3' 5'-GGTCCTTTTCACCAGCAAGCT-3'	59.5°C	[37]
YWHAZ	Fwd Rev	5'-ACTTTTGGTACATTGTGGCTTCAA-3' 5'-CCGCCAGGACAAACCAGTAT-3'	59.5°C	[37]
RPL13A	Fwd Rev	5'-CCTGGAGGAGAAGAGGAAAGAGA-3' 5'-TTGAGGACCTCTGTGTATTTGTCAA-3'	59.5°C	[37]
COL3A1	Fwd Rev	5'-CGATGAGATTATGACTTC-3' 5'-ATTACAGAATACCTTGATAG-3'	53.0°C	
UBE2C	Fwd Rev	5'-ACATATGCCTGGACATCCTGA-3' 5'-GGTTCTCCTAGAAGGCTCTGG-3'	59.5°C	[38]
POT1	Fwd Rev	5'-GGGCAAAGCAGAAGTGGACGGAGCATC-3' 5'-ATTGACAGATAACATCTGAATGCTGATTGGCTGTC -3'	59.5°C	[39]
FOXM1	Fwd Rev	5'-ACTTTAAGCACATTGCCAAGC-3' 5'-CGTGCAGGGAAAGGTTGT-3'	55.9°C	[40]
E2F2	Fwd Rev	5'-CCAAGAATTACATCAGAGAA-3' 5'-GCTTACATTCCAGACTTC-3'	55.9°C	
SUV39H1	Fwd Rev	5'-CTACTATGGCAACATCTC-3' 5'-GTCAAGGTTGTCTATGAA-3'	55.9°C	
SAT2	Fwd Rev	5'-CATCGAATGGAAATGAAAGGAGTC-3' 5'-ACCATTGGATGATTGCAGTCAA-3'	59.5°C	[41]
majSAT	Fwd Rev	5'-GACGACTTGAAAAATGACGAAATC-3' 5'-CATATTCCAGGTCCTTCAGTGTGC-3'	55.9°C	[41]
alphaSAT	Fwd Rev	5'-CTGCACTACCTGAAGAGGAC-3' 5'-GATGGTTCAACACTCTTACA-3'	55.9°C	[41]

S6. Antibodies for Western blots.

Target	Supplier, Cat No	Dilution
Mouse anti-SUV39H1	Abcam, ab12405	1:500 in 5% milk (PBST)
Rabbit anti-H3K9me3	Abcam, ab8898	1:500 in 5% milk (PBST)
Rabbit anti-H3K9ac	Abcam, ab10812	1:500 in 5% milk (PBST)
Rabbit anti-H3	Cell Signaling, 9715	1:1,000 in 5% milk (PBST)
Rabbit anti-CHK2	Abcam, ab8108	1:250 in 5% milk (PBST)
Rabbit anti-pT68CHK2	Abcam, ab3501	1:500 in 5% milk (PBST)
Mouse anti-CHK1	Cell Signaling, 2360	1:1,000 in 5% BSA (PBST)
Rabbit anti-pS345CHK1	Cell Signaling, 2341	1:1,000 in 5% milk (PBST)
Rabbit anti-p21	Abcam, ab7960	1:1,000 in 5% milk (PBST)
Mouse anti-GAPDH	Santa Cruz, sc47724	1:1,000 in 5% milk (PBST)
Mouse anti-ACTIN	Abcam, ab3280	1:1,000 in 5% BSA (PBST)
Secondary Antibodies		
Donkey anti-Rabbit	Santa Cruz, sc2313	1:10,000 in 5% milk (PBST)
Goat anti-Mouse	Santa Cruz, sc2005	1:5,000 in 5% milk (PBST)

S7. Primers for ChIP-qRT-PCR.

Target	Fwd/ Rev	Sequence	Annealing Temp	Reference
IL6	Fwd Rev	5'-CTTCGTGCATGACTTCAGCTTT-3' 5'-CGTCCTTTAGCATCGCAAGAC-3'	62.5°C	
GAPDH	Fwd Rev	5'-TACTAGCGGTTTTACGGGCG-3' 5'-TCGAACAGGAGGAGCAGAGAGCGA-3'	62.5°C	[44]
ALU1	Fwd Rev	5'-ACGAGGTCAGGAGATCGAGA-3' 5'-CTCAGCCTCCCAAGTAGCTG-3'	51°C	[45]
LINE1	Fwd Rev	5'-CAGAATCTCTGGGACGCATT-3' 5'-ATTGTGATGTTCGGGTGTCA-3'	64.1°C	[45]
αSAT D5Z1	Fwd Rev	5'-TAGACAGAAATATTCTCACAATCGT-3' 5'-GCCCTCAAAGCGCTCCAAG-3'	62.5°C	[45]
αSAT D5Z2	Fwd Rev	5'-TTTTTGTGCAATTGGCAAATGGAG-3' 5'-AGACTGTTTCCTCACTGCTCT-3'	62.5°C	[45]