

Supplementary table 1. Primer sequences used for qPCR amplification

Primer	Sequence	PCR conditions	Primer efficiency	References
<i>TERRA</i> Ch 1q-2q-4q-10q-13q-22q	F:5'GAATCCTGCGCACCGAGAT R:5'CTGCACTTGAACCCTGCAATAC	95°C, 10 min	101.1% R ² =0.995	(Diman, et al., 2016)
<i>TERRA</i> Ch16p	F: 5'TGT GTT TCA ACG CTG CAA CTG R: 5'AGT TAG AAC GGT TCA GTG TG	followed by 40 cycles of	95.1% R ² =0.991	(Wang, et al., 2015)
<i>TERRA</i> Ch20q	F:5'GAAGTTGCTGGGTTCTATGG R:5'ATGGTGCAGACACTGTGG	98°C, 5s 95°C, 10s	105.2% R ² =0.986	(Montero, et al., 2016)
<i>ACTB</i>	F:5'TGTACGCCAACACAGTGCTG-3 R:5'GCTGGAAGGTGGACAGCGA-3	60°C, 30s	94.6% R ² =0.999	(Wang, Zhao and Lu, 2015)
<i>PPIA</i>	F:5'- AGACAAGGTCCCAAAGAC-3 R:5'- ACCACCCTGACACATAAA-3	95°C, 2 min followed by 40 cycles of 95°C 5s, 60°C 30s	100.1% R ² =0.998	(Jacob, et al., 2013)

References :

- Diman A, Boros J, Poulain F, Rodriguez J, Purnelle M, Episkopou H, Bertrand L, Francaux M, Deldicque L, Decottignies A. Nuclear respiratory factor 1 and endurance exercise promote human telomere transcription. *Sci Adv* 2016;2.
- Jacob F, Guertler R, Naim S, Nixdorf S, Fedier A, Hacker NF, Heinzelmann-Schwarz V. Careful Selection of Reference Genes Is Required for Reliable Performance of RT-qPCR in Human Normal and Cancer Cell Lines. *Plos One* 2013;8.
- Montero JJ, de Silanes IL, Grana O, Blasco MA. Telomeric RNAs are essential to maintain telomeres. *Nature communications* 2016;7.
- Wang CQ, Zhao L, Lu SM. Role of TERRA in the Regulation of Telomere Length. *Int J Biol Sci* 2015;11: 316-323.

Supplementary Table 2. Primary antibodies and conditions for IHC

Primary Antibody	Type	Clone	Supplier	HIAR* (min)	Dilution	Incubation Time	Conditions
						Time (hour)	Temp (°C)
ER α	Monoclonal	6F11	NovoCastra ¹	2	1:50	2	18
ER β	Monoclonal	PPG5/10	Abcam ²	2	1:50	20	4
PR	Monoclonal	PgR 636	DAKO ³	2	1:1000	1	18
AR	Monoclonal	AR441	DAKO ³	2	1:75	20	4
Ki67	Monoclonal	MM1	NovoCastra ¹	2	1:200	20	4
TRF1	Monoclonal	MM1	Santa Cruz ⁴	2	1:50	20	4
TRF2	Monoclonal	MM1	Santa Cruz ⁴	2	1:200	20	4

*Heat induced antigen retrieval by pressure cooking in citrate buffer pH 6. ¹Dallas, Texas, USA;

¹ Newcastle, UK; ² Cambridge, UK; ³ Ely, Cambridgeshire, UK; ⁴ Heidelberg, Germany

Supplementary Figure 1

Total Patients: 589
Condition: Uterine cancer

