***Antibodies and primers***

Antibodies: anti-klotho (1:1000, #PA5-21078; RRID: AB_11153007), anti-p-NF-κB p50 (1:1000, #PA5-37658; RRID: AB_2554266), anti-β-actin (1:10 000, #PA1-16889; RRID: AB_568434), anti-BrdU (1:200, #MA3-071; RRID: AB_10986341), anti-O-GlcNAc (1:5000, #MA1-072; RRID: AB_326364), anti-HMOX-1 (1:1000, #MA1-112; RRID: AB_2536823), anti-HMOX-2 (1:1000, #PA5-19156; RRID: AB_10985656), anti-CD62 (WB: 1:1000, IF: 1:100, #MA1-10259; RRID: AB_11155439), anti-CD86 (WB: 1:1000, IF: 1:100, #MA1-10293; RRID: AB_11153536), anti-p-p38 (1:1000, #PA5-37536, RRID: AB_2554145), anti-TRAF2 (1:1000, #PA5-20193, RRID: AB_11152352), anti-GADD34 (1:1000, #PA1139, RRID: AB_2539894), anti-p-IRE1 α (1:1000, #PA1-16927, RRID: AB_2262241), anti-p-PERK (1:1000, #PA5-40294, RRID: AB_2576881), anti-ATF6 (1:1000, #PA5-68556, RRID: AB_2688633), anti-ATF4 (1:1000, #PA5-36624, RRID: AB_2553621), anti-p-ASK1 (1:1000, #PA5-36619, RRID: AB_2553618), anti-CHOP (1:1000, #PA5-36796, RRID: AB_2553739), anti-p-eIF2a (1:1000, #MA5-15133; RRID: AB_10983400), anti-p16 (1:1000, #PA1-16639; RRID: AB_568662), anti-p21 (1:1000, #701151; RRID:AB_2532411), anti-p27 (1:1000, #PA5-13254; RRID:AB_2078006), anti-p53 (1:1000, #700439; RRID:AB_2532324) (Thermo Fisher Scientific), anti-γH2AX (1:500, #CS208203) (Merck Millipore), anti-active caspase 3 (1:2000, #NBP1-45435, RRID: AB_10008902) (Novus Biologicals), anti-Bcl2 (1:500, #sc-7382; RRID: AB_626736), anti-IGF-IRβ (1:500, #sc-9038; RRID: AB_671793) (Santa Cruz). Secondary antibodies: HRP-conjugated were: anti-mouse (1:40 000, #A9044; RRID: AB_258431), anti-rabbit (1:40 000, #A0545; RRID: AB_10689821) (Sigma), anti-goat (1:5000, #sc-2768; RRID: AB_656964) (Santa Cruz) and fluorochrome-labelled were anti-rabbit Texas Red (1:1000, #T-2767; RRID: AB_2556776) and anti-mouse Cy3 (1:500, #A10521; RRID: AB_2534030) (Thermo Scientific).

***Table 1. Telomere-related primers sequences used in this study.***

| Gene | Primer sequence | Annealing temp. (℃) |
|---|---|---|
| *TRF1* | fwd: TTCCCGAAAGTGGTGGAGTTT | 62 |
| | rev: TGGCCTTTAGGCTCATACACA | |
| *TRF2* | fwd: CCTCCCAGAAACTCAAGCGG | 63 |
| | rev: TCTCGTCAACCACAATCTCCT | |
| *RAP1* | fwd: TTCTTTACCAAATTGTGGTGGCT | 62 |
| | rev: CTCCGACTTGTAGGCTGTGG | |
| *TPP1* | fwd: GGCAAATGCACTTACAACCCT | 61 |
| | rev: CTCCGAGAGTCTTTCCAGGT | |
| *TIN2* | fwd: AAGAGCATGACCGTCCTCCT | 63 |
| | rev: GGGTGGTGTACTTAGTGTCCTC | |
| *POT1* | fwd: TTGGTTTCAACAGCTCCCTATAC | 62 |
| | rev: GGAGGGCTTCATAGTTTCCACT | |
| *TELO* | fwd: CGGTTTGTTTGGGTTTGGGTTTGGGTTTGGGTTTGGGTT | 72 |
| | rev: GGCTTGCCTTACCCTTACCCTTACCCTTACCCTTACCCT | |
| *ACTB* | fwd: GCAGGAGTACGATGAGTCCG | 68 |
| | rev: ACGCAGCTCAGTAACAGTCC | |

***Table 2. Autophagy-related primers sequences used in this study.***

| Gene | Primer sequence | Annealing temp. (℃) |
|---|---|---|
| *mTOR* | fwd: ACCGGCACACATTTGAAGAAG | 52.4 |
| | rev: CACCACCAAGGATAAGGTAG | |
| *ULK1* | fwd: AGGATGGGGACTTGGTTGC | 52.4 |
| | rev: CGATGTTTTCGTGCTTTAGTTCC | |
| *PI3K* | fwd: CCTGGACATCAACGTGCAG | 53.2 |
| | rev: TGTCTCTTGGTATAGCCCAGAAA | |
| *BECN1* | fwd: AGTTGAGAAAGGCGAGACAC | 54.4 |
| | rev: CACCACCAAGGATAAGGTAG | |
| *BECN2* | fwd: GTCGCTACCGTCGTGACTTC | 55.9 |
| | rev: CAGACATGCACCTACCCAGC | |
| *ATG16* | fwd: CAGAGCAGCTACTAAGCGACT | 52.4 |
| | rev: AAAAGGGGAGATTCGGACAGA | |
| *LC3* | fwd: CGAGAGCAGCATCCTACCAA | 55.3 |
| | rev: TTCTTCCGCGAATGTCGAGT | |
| *ATG13* | fwd: CAGAACTGCTGGTGAGGACACT | 56.7 |
| | rev: AGCAGGCTGATAGGAAAGGCGA | |
| *ATG5* | fwd: AGCAACTCTGGATGGGATTG | 51.8 |
| | rev: CACTGCAGAGGTGTTTCCAA | |
| *ACTB* | fwd: CATCGGCAATGAGCGGTTCC | 68.1 |
| | rev: CCGTGTTGGCGTAGAGGTCC | |