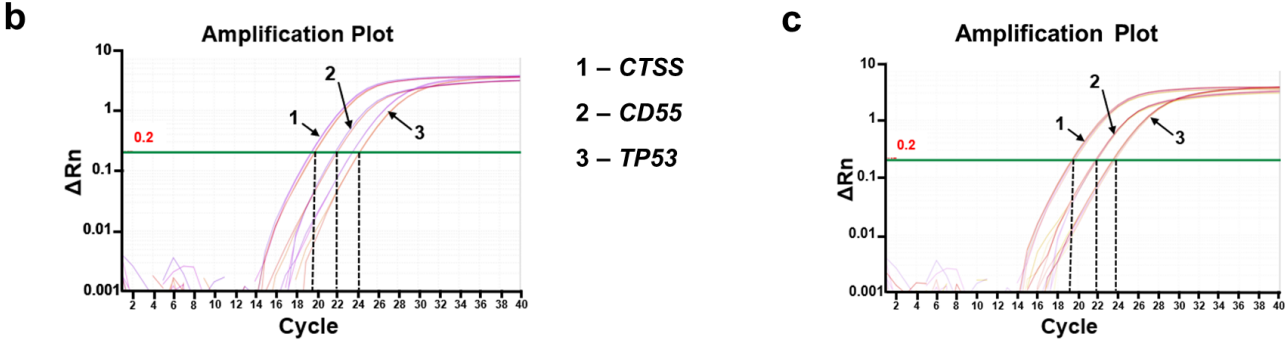


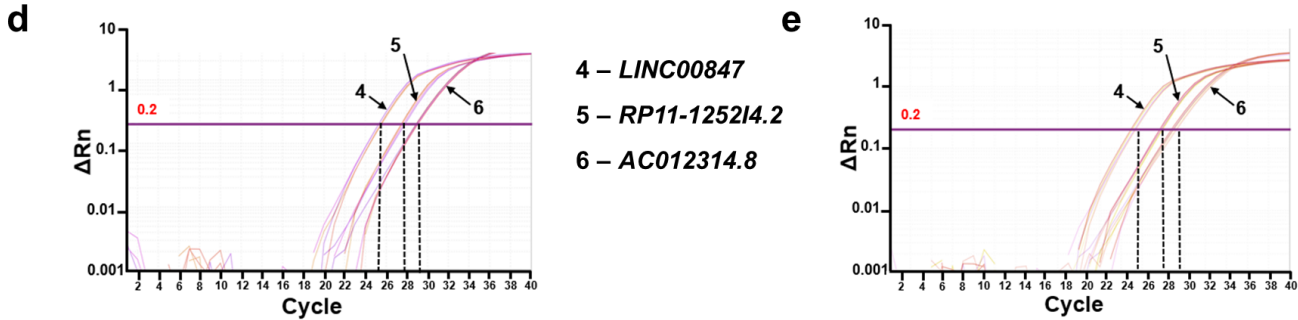
a

| Target gene ID | Class  | Baseline RNA |      | RNA stored for 1 year |      | 5 freeze-thaw cycles |      | 10 freeze-thaw cycles |      |
|----------------|--------|--------------|------|-----------------------|------|----------------------|------|-----------------------|------|
|                |        | Mean Ct      | SD   | Mean Ct               | SD   | Mean Ct              | SD   | Mean Ct               | SD   |
| CTSS           | mRNA   | 19.74        | 0.16 | 20.06                 | 0.29 | 19.91                | 0.18 | 19.75                 | 0.24 |
| CD55           | mRNA   | 21.67        | 0.36 | 21.90                 | 0.44 | 21.79                | 0.41 | 21.66                 | 0.44 |
| TP53           | mRNA   | 23.69        | 0.13 | 24.35                 | 0.25 | 23.96                | 0.34 | 23.68                 | 0.33 |
| ASL            | mRNA   | 24.69        | 0.19 | 25.06                 | 0.28 | 24.89                | 0.23 | 24.68                 | 0.27 |
| PMAIP1         | mRNA   | 25.76        | 0.31 | 26.37                 | 0.45 | 25.88                | 0.31 | 25.78                 | 0.33 |
| FOSL1          | mRNA   | 25.38        | 0.36 | 26.08                 | 0.60 | 25.55                | 0.40 | 25.45                 | 0.41 |
| LINC00847      | lncRNA | 25.38        | 0.21 | 25.81                 | 0.27 | 25.42                | 0.23 | 25.28                 | 0.25 |
| RP11-1252I4.2  | lncRNA | 27.64        | 0.21 | 28.18                 | 0.96 | 27.75                | 0.31 | 27.67                 | 0.33 |
| AC012314.8     | lncRNA | 28.99        | 0.39 | 29.71                 | 0.73 | 29.05                | 0.46 | 28.94                 | 0.47 |
| RP11-97C16.1   | lncRNA | 25.88        | 0.14 | 26.13                 | 0.37 | 25.92                | 0.22 | 25.75                 | 0.29 |
| RP11-335I12.2  | lncRNA | 26.77        | 0.40 | 27.49                 | 0.64 | 26.82                | 0.44 | 26.75                 | 0.48 |
| MCCC1-AS1      | lncRNA | 28.46        | 0.45 | 29.21                 | 0.55 | 28.81                | 0.49 | 28.80                 | 0.55 |
| GAPDH          | mRNA   | 18.51        | 0.10 | 18.68                 | 0.24 | 18.67                | 0.20 | 18.52                 | 0.14 |

mRNAs



lncRNAs



**Additional File 9, Fig.S7. Summary of lncRNA and mRNA expression values and representative amplification plots for mRNAs and lncRNAs.** **a** - summary of mean Ct values with SD from qRT-PCR data collected from RNA samples exposed to various storage conditions. **b, c** - amplification plot for CTSS, CD55, and TP53 mRNAs. **d, e** - amplification plot for LINC00847, RP11-1252I4.2 and AC012314.8 lncRNAs. Each plot shows amplification curves from baseline RNA that was never exposed to storage conditions. Panels **b** and **d** include amplification curves from total RNA samples that were stored at -80°C for one year. Panels **c** and **e** include amplification curves generated from RNA after five freeze-thaw cycles and after ten freeze-thaw cycles. Amplification plots were generated using QuantStudio12K Flex software. Vertical black dashed lines on the plots show the mean threshold cycle (Ct) for each target gene at the intersection between an amplification curve and the set threshold ( $\Delta Rn=0.2$ ).