Supplemental Information

Table S1. *Nucleic acid sequences for synthesis of the MALAT1 construct with the addition of the 3'-end SHAPE cassette (shown in red)*

Name	Sequence
MALAT1-WT DNA template	GGAAGGTTTTTCTTTTCCTGAGAAAACAACACGTATTGTTTTCTCAGGTTTT GCTTTTTGGCCTTTTTCTAGCTTAAAAAAAAAAAAAGCAAAATCGATCCGGT TCGCCGGATCCAAATCGGGCTTCGGTCCGGTTC
MALAT1-WT Forward Primer	GAAATTAATACGACTCACTATAGGAAGGTTTTTCTTTTCCTGAGAAAACAAC ACGTATT
MALAT1 SHAPE cassette Reverse Primer	mG[mA]ACCGGACCGAAGCCC
MALAT1-U13C DNA template	GGAAGGTTTTTCTCTTCCTGAGAAAACAACACGTATTGTTTTCTCAGGTTT TGCTTTTTGGCCTTTTTCTAGCTTAAAAAAAAAAAAAGCAAA ATCGATCCGGTTCGCCGGATCCAAATCGGGCTTCGGTCCGGTTC
MALAT1-U13C Forward Primer	GAAATTAATACGACTCACTATAGGAAGGTTTTTCTCTTCCTGAGAAAACAAC ACGTATT

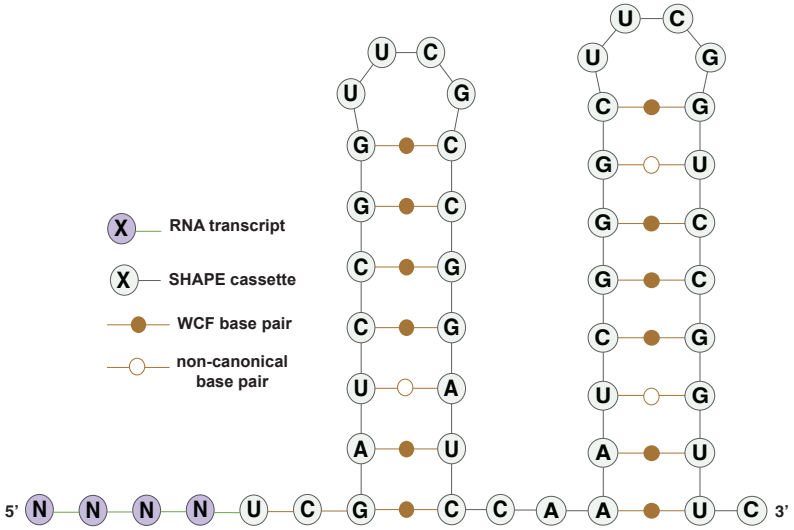

Figure S1. Representation of structure and sequence of the SHAPE cassette (orange) as reported by Wilkinson and co-workers.[1]

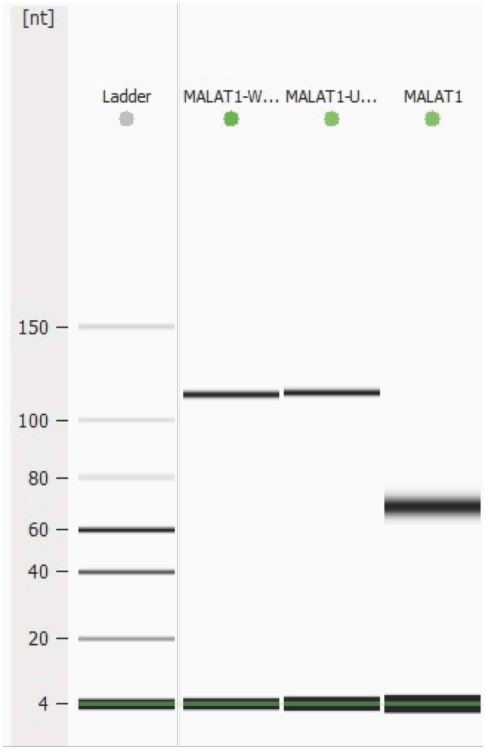

Figure S2. MALAT1-WT and MALAT1-U13C triple helix construct run on Small RNA chip on Agile bioanalyzer. Construct size is within 25% confidence value of sizing for the gel chip.

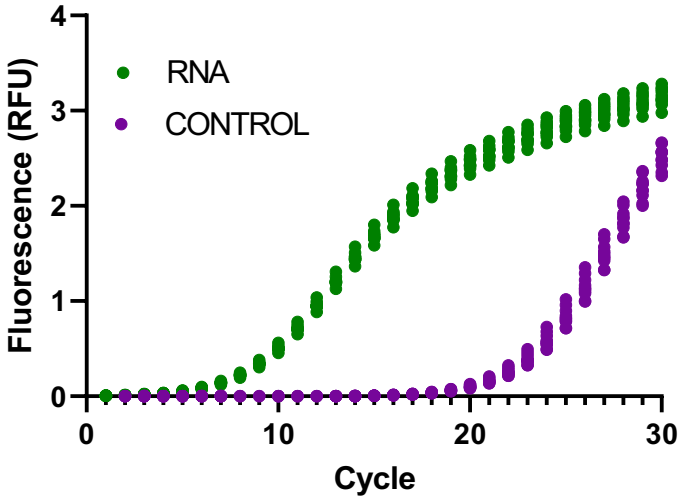

Figure S3. Raw curve of z'-factor experiment with amplification of MALAT1_WT or control. The experiment was run in two independent replicates with 10 wells of RNA and 10 wells of controls (no RNA) each. Z-factor was calculated as previously reported.[2]

References

1. Wilkinson, K. A.; Merino, E. J.; Weeks, K. M., Selective 2′-hydroxyl acylation analyzed by primer extension (SHAPE): quantitative RNA structure analysis at single nucleotide resolution. *Nature Protocols* **2006,** *1* (3), 1610-1616.
2. Patwardhan, N. N.; Cai, Z.; Newson, C. N.; Hargrove, A. E., Fluorescent peptide displacement as a general assay for screening small molecule libraries against RNA. *Org Biomol Chem* **2019,** *17* (7), 1778-1786.