ELECTRONIC SUPPLEMENTARY INFORMATION (ESI)

Quadruplex priming amplification for the detection of mRNA from surrogate patient samples

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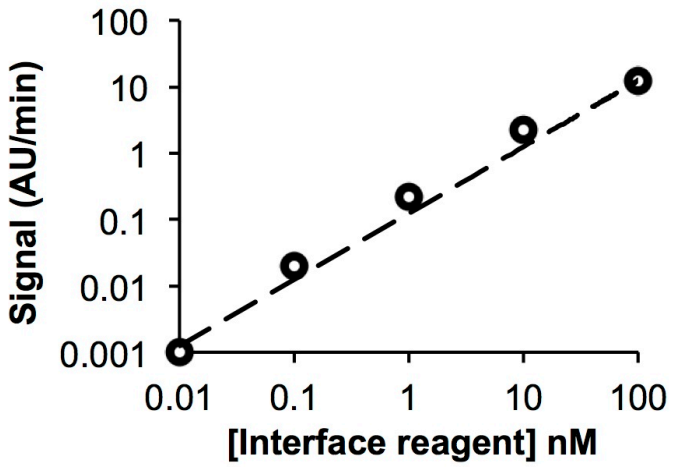
This supplemental information provides additional details about the materials and data used to validate the quadruplex priming amplification (QPA) reaction. Included is a figure (**Supplementary Figure 1**) that demonstrates the dynamic range of QPA and a table (**Supplementary Table 1**) of the oligonucleotides used to conduct this work.



Supplementary Figure 1. The increase in fluorescence over time is directly proportional to the concentration of interface reagents present in the QPA reaction. This linear response has a dynamic range that spans nearly 4 orders of magnitude. Note: log scale on x- and y-axes (mean ± σ, n = 3).

Supplementary Table 1. Oligonucleotide sequences used in these studies.

Oligonucleotide name	Function	Length (nt)	Sequence (5' – 3')
G4BK_primer_ 6MI@4	QPA primer (G-quadruplex precursor)	13	GGG(6-MI)GGGCGGGCG*
G4BK_+primer_ 6MI@4	Complete G-quadruplex (positive control)	15	GGG(6-MI)GGGCGGGCGGG*
G4BK_temp_RSV22	mRNA-QPA interface reagent (unlabeled)	37	CCCGCCCGCCCCCCCCTTCTCCAGTGTAGTAT TAGGC
G4BK_temp_RSV22 +5 w/Cy5	Interface reagent with spacer (Cy5 labeled)	42	(Cy5)CCCGCCCGCCCCCCCGGAGTCTTCTCCA GTGTAGTATTAGGC
RSVN_939-978_ mRNA w/HEX	Synthetic mRNA biomarker (HEX labeled)	60	(HEX)GCCUAAUACUACACUGGAGAAGUGAGG AAAUUGAGUCAAAAAAAAAAAAAAAAAAAAAA

*6-MI (6-methyl isoxanthopterin) is a fluorescent guanosine analog