
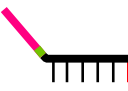




**Table S1.** Oligonucleotides sequences (5' to 3') used in the assay.

	Name	Sequence (5' → 3')	Size (nt)
	Hairpin probe (L452R)*	p- <b>GGT AAT TAT AAT TAC CAC CAA CCT TAG</b> <b>ATG ACC CTC CGT</b> TTT TTT TTT TTT <b>TTC</b> <b>GGA GGG TC</b>	62
	Linear probe (L452R)**	<b>GAC CCT CCC CCC CAC TCC CTC AGC AGA</b> <b>CTT CCT AAA CAA TCT ATA C</b>	47
	Dumbbell padlock***	p-GCA CGC CTA CTA <b>CCC TAA CCC TAA CCC</b> <b>TAA CCC</b> TGC GTG CCG TAA CCC TAC TAC ACC ACC ACC AC <b>G ACC CTC CCC CCC ACT</b> <b>CCC TCA</b> GGT TAC G	94
	model SDAP	<b>TGA GG G AGT GGG GGG GAG GGT C</b>	22
	Wild-type /L452R RNA****	UCU AAG GUU GGU GGU AAU UAU AAU UAC <b>CU/GG</b> UAU AGA UUG UUU AGG AAG UCU AA	53

\*Hairpin probe: annealing site to both wild type and mutant RNA (black-colored and bold-faced sequences); hairpin probe loop (blue-colored sequences); hairpin probe stem (blue-colored underlined sequences): p, phosphorylation at the 5'-end.

\*\* Linear probe: annealing sites to both wild type and mutant RNA (black-colored and bold-faced sequences), mutant RNA (pink-colored sequences) and single nucleotide variants of L452R (red-colored and yellow-highlighted sequence)

\*\*\* Dumbbell padlock: annealing site to the RCA primers generated by SDA (purple-colored and bold-faced sequences); C-rich sequences to generate the G-quadruplex (light green-colored and bold-faced sequences); p, phosphorylation at the 5'-end.

\*\*\*\* Wild type/L452R model RNA: wild type and mutant type sequence, respectively (Underlined and bold-faced).