Electronic Supplementary Material (ESI) for RSC Advances.

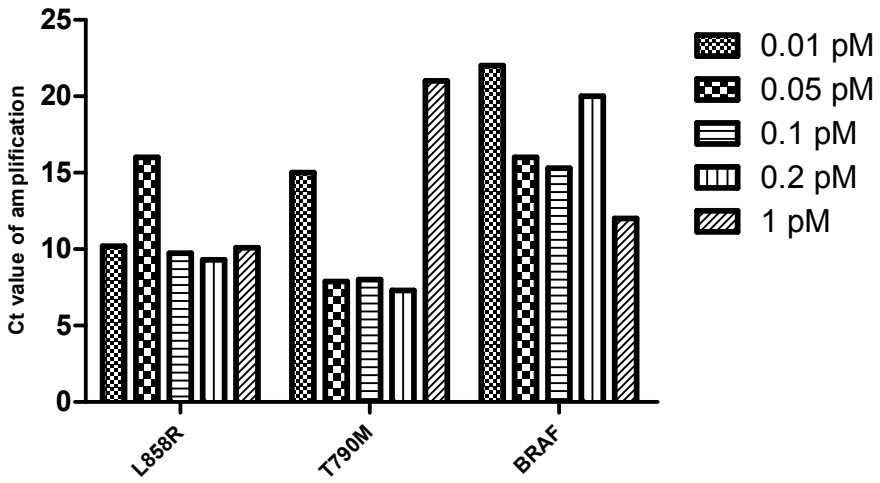

Fig. S1 Influence of the padlock probe concentration on the detection sensitivity. Padlock probe concentration: 0.01 pM – 1 pM.

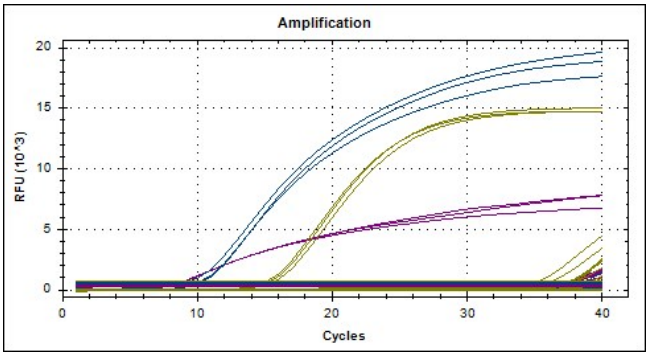

Fig. S2 The amplification curve of specificity of MPRP assay.

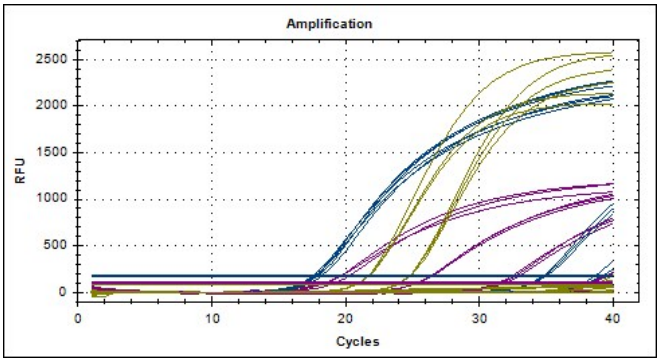

Fig. S3 The amplification curve of sensitivity of MPRP assay.

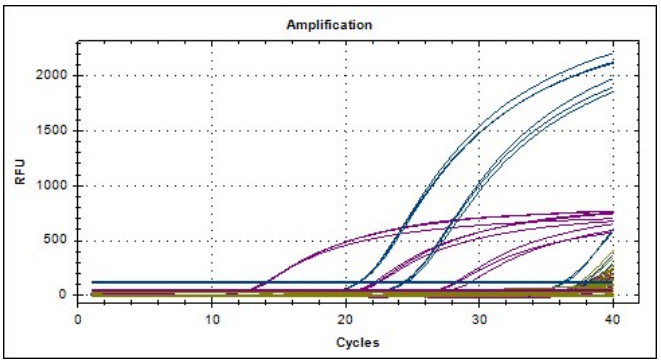

Fig. S4 The amplification curve of clinical test of MPRP assay.

Table S1. Detection of EGFR L858R, T790M and BRAF V600E mutations in 8 patients' samples using digital PCR.

Patients ID		p1	p2	p5	p3	p6	p8	p7	p9
gender		female	male	female	female	male	male	female	female
Clinical ID		497714	500633	505479	505479	2890137	253471	524012	497714
cfDNA concentration (ng/ul)		87.34	11.73	21.52	47.93	47.49	23.55	44.5	40.1
EGFR L858R	**MU concentration (copies/ul）**	0	0	0.57	0.65	0.32	0	0.07	0
	Number of positive droplets	0	0	9	8	4	0	1	0
	WT concentration (copies/ul）	48.1	6.51	23.3	14.8	13.1	24.8	54.4	62.3
	Number of positive droplets	547	75	205	181	165	289	743	862
	Mutation Ratio	0	0	2.30%	4.21%	2.38%	0	0.13%	0
EGFR T790M	**MU concentration (copies/ul）**	0.08	1.39	0	1.07	0.63	0	0	0
	Number of positive droplets	1	14	4	14	7	0	0	0
	WT concentration (copies/ul）	30.4	3.96	22	11.9	7.67	19.4	19.4	43
	Number of positive droplets	369	47	157	155	85	267	468	615
	Mutation Ratio	0.26%	25.98%	0	8.25%	7.59%	0	0	0

BRAF V600E	**MU concentration (copies/ul）**	0	0	0	0	0	0.07	0	0
	Number of positive droplets	0	0	0	0	0	1	0	0
	WT concentration (copies/ul）	48.5	11.6	43.8	31.5	29.9	18.8	50.1	22.7
	Number of positive droplets	657	66	469	393	396	253	333	284
	Mutation Ratio	0	0	0	0	0	0.37%	0	0