

Supplementary Table 1 Oncomine Precision Assay gene list

DNA hotspots						CNVs	Inter-genetic fusions		Intra-genetic fusions
<i>AKT1</i>	<i>CHEK2</i>	<i>FGFR3</i>	<i>KIT</i>	<i>NTRK3</i>	<i>ALK</i>	<i>FGFR1</i>	<i>ALK</i>	<i>NTRK1</i>	<i>AR</i>
<i>AKT2</i>	<i>CTNNB1</i>	<i>FGFR4</i>	<i>KRAS</i>	<i>PDGFRA</i>	<i>AR</i>	<i>FGFR2</i>	<i>BRAF</i>	<i>NTRK2</i>	<i>EGFR</i>
<i>AKT3</i>	<i>EGFR</i>	<i>FLT3</i>	<i>MAP2K1</i>	<i>PIK3CA</i>	<i>CD274</i>	<i>FGFR3</i>	<i>ESR1</i>	<i>NTRK3</i>	<i>MET</i>
<i>ALK</i>	<i>ERBB2</i>	<i>GNA11</i>	<i>MAP2K2</i>	<i>PTEN</i>	<i>CDKN2A</i>	<i>KRAS</i>	<i>FGFR1</i>	<i>NUTM1</i>	
<i>AR</i>	<i>ERBB3</i>	<i>GNAQ</i>	<i>MET</i>	<i>RAF1</i>	<i>EGFR</i>	<i>MET</i>	<i>FGFR2</i>	<i>RET</i>	
<i>ARAF</i>	<i>ERBB4</i>	<i>GNAS</i>	<i>MTOR</i>	<i>RET</i>	<i>ERBB2</i>	<i>PIK3CA</i>	<i>FGFR3</i>	<i>ROS1</i>	
<i>BRAF</i>	<i>ESR1</i>	<i>HRAS</i>	<i>NRAS</i>	<i>ROS1</i>	<i>ERBB3</i>	<i>PTEN</i>	<i>MET</i>	<i>RSPO2</i>	
<i>CDK4</i>	<i>FGFR1</i>	<i>IDH1</i>	<i>NTRK1</i>	<i>SMO</i>			<i>NRG1</i>	<i>RSPO3</i>	
<i>CDKN2A</i>	<i>FGFR2</i>	<i>IDH2</i>	<i>NTRK2</i>	<i>TP53</i>					

Supplementary Table 2 Details of the clinical, biological and genetic characteristics of sample studied of each individual advanced colorectal cancer patient analyzed in this study (*n* = 73)

ID	Gender	Years	Site of PT	Mestastases	CEA	MSI	Clone 1	MAF %	Clone 2	MAF %	Clone 3	MAF %	N. clones	N. genes
1	M	72	Rectum	No	2.8	No	TP53	42	PIK3CA	12	FGFR3, RET	3	3	4
2	M	70	Right	No	2.5	No	KRAS	18	ALK, RET, TP53	9.5			2	4
3	M	94	Right	Yes	17.3	Yes	BRAF	33	PIK3CA	10	TP53	3	3	3
4	F	92	Rectum	No	3.7	No	BRAF	33	TP53	25			2	2
5	M	50	Right	Yes	4.1	No	KRAS, PIK3CA, TP53	14					1	3
6	F	36	Left	Yes	60.1	No	KRAS ¹		TP53	9	ALK, EGFR	3	3	4
7	F	73	Rectum	Yes	172.2	No	KRAS	25	TP53	3			2	2
8	F	72	Right	No	12.5	Yes	KRAS	30	PIK3CA	19			2	2

9	F	69	Left	Yes	41.5	No							0	0
10	F	73	Left	No	2.1	No	KRAS	24					1	1
11	F	75	Left	No	1.8	No	TP53	61	IDH1, PIK3CA, PTEN ¹	40			2	4
12	M	90	Right	No	23.5	No	PTPRK:: <i>RSPO3</i>		KRAS	9			2	3
13	F	66	Transverse	Yes	-	No	PTPRK:: <i>RSPO3</i>		IDH1	20			2	3
14	F	75	Left	Yes	1.9	No	TP53	41					1	1
15	M	68	Right	Yes	6.5	No	KRAS	26	PIK3CA	18	ALK, TP53	4	3	4
16	F	82	Left	No	3.2	No	IDH2	3					1	1
17	F	66	Left	No	0.6	Yes	KRAS, TP53	35					1	2
18	F	72	Right	No	3.8	No	TP53	20					1	1
19	F	73	Right	No	4.6	No	KRAS	34	PIK3CA	23			2	2
20	M	71	Left	Yes	2.2	No	ERBB2	26					1	1
21	M	62	Right	No	-	Yes	BRAF	30					1	1
22	M	82	Left	No	0.3	No	KRAS, TP53	35	MET	3			2	3

23	M	78	Left	Yes	5.7	No	KRAS	8				1	1
24	F	53	Left	No	0.9	No	TP53	27	FGFR4	4		2	2
25	F	67	Right	No	0.7	No	PTPRK::RSPO3		KRAS	14		2	3
26	M	77	Left	No	-	Yes	TP53	30	BRAF	22		2	2
27	M	64	Left	No	2.4	Yes	PIK3CA	39				1	1
28	M	86	Right	No	3.9	No	TP53, BRAF	15				1	2
29	M	49	Left	Yes	2.9	No	TP53	40	FGFR3, RET	3		2	3
30	F	77	Left	No	11.7	No	TP53	56				1	1
31	F	86	Right	No	9.3	No	KRAS	31				1	1
32	M	62	Left	No	19.6	No	TP53	23	FGFR1 ¹			2	2
33	M	66	Left	No	4.7	No	KRAS	15	FGFR3	4		2	2
34	M	75	Right	No	10.2	No	TP53	23	KRAS	9	PDGFRA	4	3
35	F	67	Left	No	1.5	No	TP53, NRAS	26	PTEN	4		2	3
36	F	88	Transverse	Yes	3.9	Yes	ERBB2, BRAF	10	IDH1	4		2	3
37	F	85	Right	No	-	No	KRAS	37	TP53	30		2	2
38	F	83	Left	No	1.5	No	NRAS	38	PIK3CA	27		2	2

39	F	73	Right	No	3.3	Yes	PIK3CA, BRAF	10	RET	3			2	3
40	M	83	Left	No	-	No	KRAS	21					1	1
41	M	65	Transverse	Yes	1.4	No	PTPRK::RSPO3		RET	3			2	3
42	F	82	Left	Yes	6.2	No	TP53	30	PTEN	15	PIK3CA	4	3	3
43	M	81	Right	No	1.9	Yes	IDH1	13	FGFR3	4			2	2
44	M	76	Left	Yes	824.5	No	KRAS	16	PIK3CA	5			2	2
45	F	83	Right	Yes	24.2	No	TP53, KRAS	13					1	2
46	F	58	Right	No	2.9	No	KRAS	21	TP53	3			2	2
47	F	80	Left	No	7.4	No	KRAS, TP53	23					1	2
48	M	73	Right	No	8.8	No	KRAS	31					1	1
49	F	85	Left	No	16.2	No	TP53	39	MET	3			2	2
50	M	84	Rectum	No	2.4	No	TP53	21					1	1
51	M	79	Left	Yes	23.6	No	TP53	32	PIK3CA	20			2	2
52	M	73	Right	Yes	-	Yes	TP53, BRAF	37	PTEN ¹		AR	4	3	4
53	M	63	Left	No	1.8	No	MAP2K1	14	KRAS,	4			2	3
									PIK3CA					
54	M	71	Right	Yes	52.7	No	TP53	52	NRAS	43	FGFR3,	4	3	4

69	M	60	Right	No	2.7	No	TP53	45.6	KRAS	40.2			2	2
70	M	74	Left	No			KRAS	66	FGFR2	54.1			2	2
71	F	74	Right	No	4.5	No	KRAS	29	PIK3CA	23			2	2
72	M	62	Right	No	1.5	No	PTPRK::RSPO3		KRAS	27	TP53	18	4	4
73	M	81	Trasverse	No	16		TP53	32	KRAS	24.9			2	2
