Table SI. Primers used for PCR amplification and fragment analysis for typing MSI.

Marker	Forward and reverse primers	Location	Repeat motif
BAT25	F, 5'-TCGCCTCCAAGAATGTAAGT-3'	4q12 (c-kit, intron 16)	TTTT.T.TTTT.$(T)_7$.A$(T)_{25}$
	R, 5'-TCTGCATTTTAACTATGGCTC-3'		
BAT26	F, 5'-TGACTACTTTTGACTTCAGCC-3'	2p16.3-p21 (*MSH2* gene, intron 5)	$(T)_5$…$(A)_{26}$
	R, 5'-AACCATTCAACATTTTTAACCC-3'		
CAT25	F, 5'- CCTAGAAACCTTTATCCCTGCTT-3'	7q34-35 (3'-UTR of *CASP2*)	$(T)_{25}$
	R, 5'- GAGCTTGCAGTGAGCTGAGA-3'		
D2S123	F, 5'-AAACAGGATGCCTGCCTTTA-3'	2p16 (*MSH2*)	$(CA)_{13}TA(CA)_{15}(T/GA)_7$
	R, 5'-GGACTTTCCACCTATGGGAC-3'		
D5S346	F, 5'-ACTCACTCTAGTGATAAATCGGG-3'	5q21-22 (*APC*)	$(CA)_{26}$
	R, 5'-AGCAGATAAGACAGTATTACTAGTT-3'		
D17S250	F, 5'-GGAAGAATCAAATAGACAAT-3'	17q11.2-q12 (*BRCA1*)	$(TA)_7$…$(CA)_{24}$
	R, 5'-GCTGGCCATATATATATTTAAACC-3'		

F, forward primer; R, reverse primer.

Table SII. Primers used for PCR amplification and Sanger sequencing.

Gene name	Location	Primer sequence	PCR product (bp)
KRAS	Exon 2	F, 5'-GGTACTGGTGGAGTATTTGATAGTGT-3'	170
		R, 5'-TGAATTAGCTGTATCGTCAAGGCACT-3'	
BRAF	Exon 15	F, 5'-TCATAATGCTTGCTCTGATAGGA-3'	224
		R, 5'-GGCCAAAATTTAATCAGTGGA-3'	

F, forward primer; R, reverse prime; bp, base pair.

Table SIII. Pairwise comparisons between MSI groups and between MSI-H/L vs. MSS tumors.

Characteristics	Categories	MSI-H vs. MSI-L	MSI-H vs. MSS	MSI-L vs. MSS	MSI-H/L n (%)	MSS n (%)	P-value
Age, years	≤50	0.422[a]	0.041[a]	0.304[a]	26 (25.5)	6 (12.2)	0.062[a]
	>50				76 (74.5)	43 (87.8)	
Sex	Male	0.005[a]	0.869[a]	0.006[a]	53 (52.0)	31 (66.3)	0.191[a]
	Female				49 (48.0)	18 (36.7)	
Ethnicity	Kinh	0.777[a]	0.856[a]	0.909[a]	59 (57.8)	28 (57.1)	0.935[a]
	Muong				43 (42.2)	21 (42.9)	
Location	Colon	0.028[a]	0.031[a]	0.826[a]	74 (72.5)	30 (61.2)	0.159[a]
	Rectum				28 (27.5)	19 (38.8)	
TNM stage	I	0.643[c]	0.422[c]	0.315[c]	2 (2.0)	5 (10.2)	0.303[c]
	II				76 (74.5)	32 (65.3)	
	III				19 (18.6)	9 (18.4)	
	IV				1 (1.0)	-	
	Missing				4 (3.9)	3 (6.1)	
T stage	T2	0.043[c]	0.050[c]	0.919[c]	4 (3.9)	6 (12.2)	0.168[c]
	T3				57 (55.9)	27 (55.1)	
	T4				41 (40.2)	16 (32.7)	
Lymph node invasion	N0	0.889[c]	0.785[c]	0.918[c]	78 (76.5)	37 (75.5)	0.810[c]
	N1				20 (19.6)	8 (16.3)	
	N2				-	2 (4.1)	
	Missing				4 (3.9)	2 (4.1)	
Distant metastasis	M0	0.164[c]	1.000[c]	0.245[c]	99 (97.1)	46 (93.9)	0.498[c]
	M1				1 (1.0)	-	
	Missing				2 (2.0)	3 (6.1)	
Differentiation	Well	0.817[c]	0.027[c]	0.112[c]	11 (10.8)	14 (28.6)	0.024[c]
	Moderately				13 (12.7)	4 (8.2)	
	Poorly				4 (3.9)	1 (2.0)	
	Missing				74 (72.5)	30 (61.2)	
BRAF	Mutant	1.000[b]	0.263[b]	0.410[b]	4 (3.9)	-	0.305[b]
	Wild-type				98 (96.1)	49 (100.0)	
KRAS	Mutant	0.886[a]	0.312[a]	0.321[a]	41 (40.2)	15 (30.6)	0.254[a]
	Wild-type				61 (59.8)	34 (69.4)	

CRC, colorectal cancer; SD, standard deviation; MSI-H, high-frequency microsatellite instability; MSI-L, low-frequency microsatellite instability; MSS, microsatellite stable. [a]χ^2 test; [b]Fisher's exact test; or [c]Kruskal-Wallis test.

Table SIV. Results of MSI analyses in cases with a minimum number of two unstable microsatellites.

Sample number	MSI markers						Status
	BAT25	BAT26	CAT25	D2S123	D5S346	D17S250	MSI-H
6	-	-	-	+	-	+	MSI-H
15	-	-	-	-	+	+	MSI-H
24	-	-	-	+	-	+	MSI-H
29	-	-	-	-	+	+	MSI-H
38	-	-	-	+	+	-	MSI-H
78	-	-	-	+	-	+	MSI-H
84	-	-	-	+	+	-	MSI-H
85	-	-	-	+	+	-	MSI-H
86	-	-	-	+	-	+	MSI-H
89	-	-	-	+	+		MSI-H
94	-	-	-	+	-	+	MSI-H
103	-	-	-	+	-	+	MSI-H
110	-	+	-	-	+	-	MSI-H
114	-	+	-	+	-	-	MSI-H

MSI, microsatellite instability; MSI-H, MSI-high; (+), MSI-positive; (-), MSI negative.