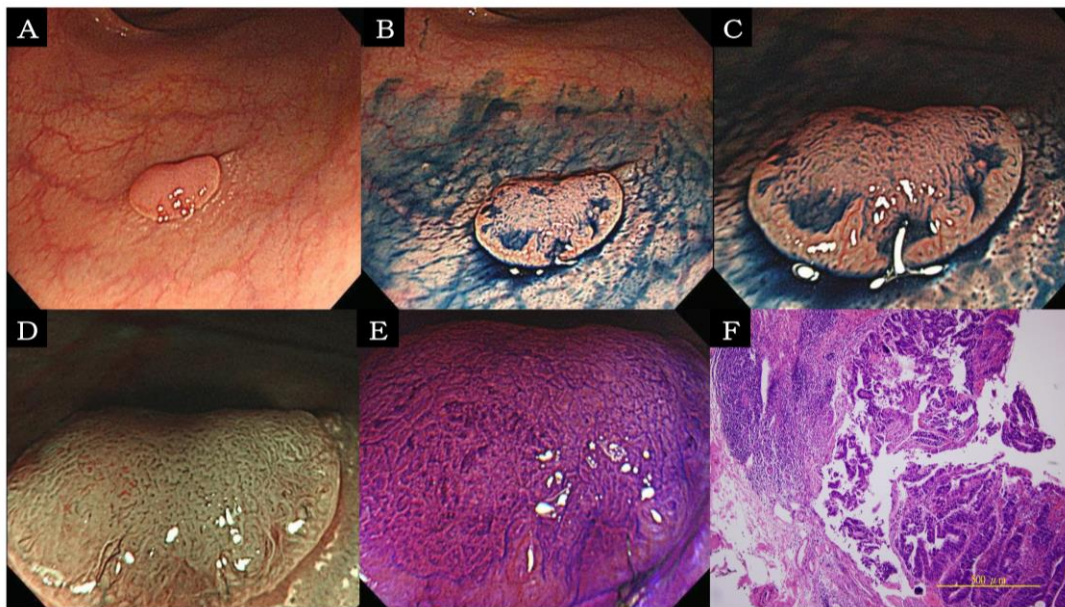


*Supplementary Materials*

## Copy Number Alterations of Depressed Colorectal Neoplasm Predict the Survival and Response to Oxaliplatin in Proximal Colon Cancer

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**Figure S1.** Depressed neoplasm has invasive cancer at small-size stage. (A) White light endoscopy: The 8-mm depressed morphology of the colorectal neoplasm located in the rectum. (B) Indigo carmine dye: The centrally depressed area contrasted out clearly after spraying it with the indigo carmine dye, and it corresponded with stage 0-IIa+IIc in morphology. (C) Indigo carmine dye: Closer examination showed that the region outside the demarcation line of the depressed area has a normal pit pattern. The sharp transition from normal mucosa to advanced histology directly was the distinct features in the carcinogenesis of the depressed colorectal cancer. (D) Narrow-band imaging: The narrow-band imaging disclosed that the vascularity of the depressed part was focally sparse. (E) Crystal violet stain: The pit pattern was irregular as observed after crystal violet staining (Vi pit pattern). (F) Histology: The histology revealed that the depressed region harbored invasive cancer with superficial submucosal involvement.



**Table S1.** Matched protein coding genes with significant arm-level changes in chr8, chr13, and chr20.

<b>Gene</b>	<b>Chr</b>	<b>Start</b>	<b>End</b>
<i>HAS2</i>	chr8	122625270	122653630
<i>ZHX2</i>	chr8	123793900	123986755
<i>DERL1</i>	chr8	124025403	124054663
<i>TBC1D31</i>	chr8	124084858	124164392
<i>FAM83A</i>	chr8	124191286	124222319
<i>C8orf76</i>	chr8	124232195	124253638
<i>ZHX1-C8orf76</i>	chr8	124238428	124286727
<i>ZHX1</i>	chr8	124260689	124287781
<i>ATAD2</i>	chr8	124332090	124408705
<i>WDYHV1</i>	chr8	124428964	124460330
<i>FBXO32</i>	chr8	124510126	124553493
<i>KLHL38</i>	chr8	124657914	124665190
<i>ANXA13</i>	chr8	124693033	124749666
<i>FAM91A1</i>	chr8	124780678	124827690
<i>FER1L6</i>	chr8	124864226	125132302
<i>TMEM65</i>	chr8	125323158	125384940
<i>TRMT12</i>	chr8	125463047	125465266
<i>RNF139</i>	chr8	125487007	125500859
<i>TATDN1</i>	chr8	125500734	125551329
<i>NDUFB9</i>	chr8	125551342	125562227
<i>MTSS1</i>	chr8	125563010	125740748
<i>ZNF572</i>	chr8	125985538	125991630
<i>SQLE</i>	chr8	126010719	126034525
<i>NSMCE2</i>	chr8	126104082	126379367
<i>TRIB1</i>	chr8	126442562	126450647
<i>FAM84B</i>	chr8	127564682	127570711
<i>PCAT1</i>	chr8	128025398	128033259
<i>PCAT2</i>	chr8	128084938	128094466
<i>PRNCR1</i>	chr8	128092118	128104840
<i>CASC19</i>	chr8	128200030	128209872
<i>CCAT1</i>	chr8	128219626	128231513
<i>CASC21</i>	chr8	128256881	128404876
<i>CASC8</i>	chr8	128301920	128494384
<i>CCAT2</i>	chr8	128412643	128414395
<i>POU5F1B</i>	chr8	128427856	128429441
<i>CASC11</i>	chr8	128712852	128746213
<i>MYC</i>	chr8	128748314	128753680
<i>PVT1</i>	chr8	128806778	129113499
<i>TMEM75</i>	chr8	128958804	128960969
<i>USP12</i>	chr13	27640286	27746033
<i>RPL21</i>	chr13	27825691	27830702
<i>RPL21P28</i>	chr13	27825692	27830699
<i>RASL11A</i>	chr13	27844463	27847827
<i>GTF3A</i>	chr13	27998680	28009846
<i>MTIF3</i>	chr13	28009775	28024739
<i>LNX2</i>	chr13	28120049	28194720

<i>POLR1D</i>	chr13	28194879	28241559
<i>GSX1</i>	chr13	28366779	28368089
<i>PDX1</i>	chr13	28494167	28500451
<i>ATP5EP2</i>	chr13	28519342	28519710
<i>CDX2</i>	chr13	28536204	28543505
<i>URAD</i>	chr13	28552242	28562774
<i>FLT3</i>	chr13	28577410	28674729
<i>PAN3</i>	chr13	28712642	28869475
<i>CCDC169</i>	chr13	36801178	36871992
<i>SPG20</i>	chr13	36875774	36944317
<i>CCNA1</i>	chr13	37005966	37017019
<i>SERTM1</i>	chr13	37248048	37271975
<i>RFXAP</i>	chr13	37393338	37403740
<i>SMAD9</i>	chr13	37418967	37494409
<i>ALG5</i>	chr13	37523907	37573504
<i>EXOSC8</i>	chr13	37574677	37583751
<i>SUPT20H</i>	chr13	37583450	37633850
<i>CSNK1A1L</i>	chr13	37677396	37679801
<i>POSTN</i>	chr13	38136718	38172981
<i>TRPC4</i>	chr13	38210772	38443939
<i>UFM1</i>	chr13	38923907	38937144
<i>FREM2</i>	chr13	39261172	39461267
<i>STOML3</i>	chr13	39540061	39564996
<i>PROSER1</i>	chr13	39584001	39612213
<i>NHLRC3</i>	chr13	39612447	39624244
<i>LHFP</i>	chr13	39917028	40177356
<i>COG6</i>	chr13	40229763	40365802
<i>SLITRK5</i>	chr13	88324869	88331870
<i>DAOA</i>	chr13	106118215	106143383
<i>SPACA7</i>	chr13	113030650	113089009
<i>TUBGCP3</i>	chr13	113139318	113242499
<i>ATP11AUN</i>	chr13	113301357	113338811
<i>ATP11A</i>	chr13	113344642	113541482
<i>MCF2L</i>	chr13	113623534	113754053
<i>F7</i>	chr13	113760101	113774995
<i>F10</i>	chr13	113777112	113803843
<i>PROZ</i>	chr13	113812967	113826698
<i>PCID2</i>	chr13	113831852	113863234
<i>CUL4A</i>	chr13	113862506	113919392
<i>LAMP1</i>	chr13	113951468	113977741
<i>GRTP1</i>	chr13	113978478	114018463
<i>ADPRHL1</i>	chr13	114076254	114107839
<i>DCUN1D2</i>	chr13	114110133	114145023
<i>TMCO3</i>	chr13	114145307	114204544
<i>TFDP1</i>	chr13	114239002	114295788
<i>ATP4B</i>	chr13	114303121	114312513
<i>GRK1</i>	chr13	114321596	114438637
<i>TMEM255B</i>	chr13	114462215	114514899
<i>GAS6</i>	chr13	114523521	114567076

<i>RASA3</i>	chr13	114747193	114898098
<i>CDC16</i>	chr13	115000319	115038201
<i>UPF3A</i>	chr13	115047058	115071291
<i>CHAMP1</i>	chr13	115079809	115092803
<i>TAF4</i>	chr20	60549853	60640866
<i>LSM14B</i>	chr20	60697516	60710434
<i>PSMA7</i>	chr20	60711782	60718514
<i>SS18L1</i>	chr20	60718775	60757566
<i>MTG2</i>	chr20	60758080	60777810
<i>HRH3</i>	chr20	60790016	60795323
<i>OSBPL2</i>	chr20	60813540	60871269
<i>ADRM1</i>	chr20	60877951	60883918
<i>LAMA5</i>	chr20	60884115	60942368
<i>RPS21</i>	chr20	60962120	60963576
<i>CABLES2</i>	chr20	60963685	60982339
<i>RBBP8NL</i>	chr20	60985292	61002629
<i>GATA5</i>	chr20	61038552	61051026
<i>SLCO4A1</i>	chr20	61273796	61303647
<i>NTSR1</i>	chr20	61340188	61394123
<i>MRGBP</i>	chr20	61427756	61433090
<i>OGFR</i>	chr20	61436176	61445352
<i>COL9A3</i>	chr20	61448413	61472511
<i>TCFL5</i>	chr20	61472365	61493115
<i>DPH3P1</i>	chr20	61475917	61477543
<i>DIDO1</i>	chr20	61509089	61569304
<i>GID8</i>	chr20	61569440	61579827
<i>SLC17A9</i>	chr20	61583998	61599949
<i>BHLHE23</i>	chr20	61637330	61638387
<i>HAR1B</i>	chr20	61726844	61733671
<i>HAR1A</i>	chr20	61732643	61735737
<i>YTHDF1</i>	chr20	61826781	61847538
<i>BIRC7</i>	chr20	61867234	61871859
<i>NKAIN4</i>	chr20	61872135	61885892
<i>FLJ16779</i>	chr20	61885329	61892967
<i>ARFGAP1</i>	chr20	61904136	61921142
<i>COL20A1</i>	chr20	61924537	61962285
<i>CHRNA4</i>	chr20	61974661	61992748
<i>KCNQ2</i>	chr20	62031566	62104030
<i>EEF1A2</i>	chr20	62119364	62130668
<i>PPDPF</i>	chr20	62152132	62153524
<i>PTK6</i>	chr20	62159775	62168723
<i>SRMS</i>	chr20	62171276	62178857
<i>HELZ2</i>	chr20	62189438	62205592
<i>GMEB2</i>	chr20	62218946	62258454
<i>STMN3</i>	chr20	62271057	62284963
<i>RTEL1</i>	chr20	62289162	62327606
<i>RTEL1-TNFRSF6B</i>	chr20	62289162	62330051
<i>TNFRSF6B</i>	chr20	62328003	62330051
<i>ARFRP1</i>	chr20	62329994	62339365

<i>ZGPAT</i>	chr20	62338793	62367494
<i>LIME1</i>	chr20	62367052	62370460
<i>SLC2A4RG</i>	chr20	62371210	62375403
<i>ZBTB46</i>	chr20	62375020	62436856
<i>ABHD16B</i>	chr20	62492565	62494341
<i>TPD52L2</i>	chr20	62496580	62522898
<i>DNAJC5</i>	chr20	62526454	62567384
<i>UCKL1</i>	chr20	62571181	62587800
<i>ZNF512B</i>	chr20	62588056	62601223
<i>SAMD10</i>	chr20	62605465	62610995

**Table S2.** Diagnostic performance of the D-mark panel for detecting depressed neoplasms.

<b>Discovery Set</b>			
	<b>Depressed neoplasm</b>	<b>Polypoid neoplasm</b>	
D-marker panel (+)	11	1	PPV (95%CI): 91.7% (65.8-99.6%)
D-marker panel (-)	9	12	NPV (95%CI): 57.1% (42.3-61.9%)
	Sensitivity (95%CI): 55.0% (39.5-59.7%)	Specificity (95%CI): 92.3% (68.4-99.6%)	Accuracy (95% CI): 69.7% (50.9-75.4%)
<b>Validation set</b>			
	<b>Depressed neoplasm</b>	<b>Polypoid neoplasm</b>	
D-marker panel (+)	28	7	PPV (95%CI): 80.0% (62.5-90.9%)
D-marker panel (-)	9	35	NPV (95%CI): 79.5% (64.2-89.7%)
	Sensitivity (95%CI): 75.7% (58.4-87.6%)	Specificity (95%CI): 83.3% (68.0-92.5%)	Accuracy (95% CI): 79.7% (69.2-88.0%)



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