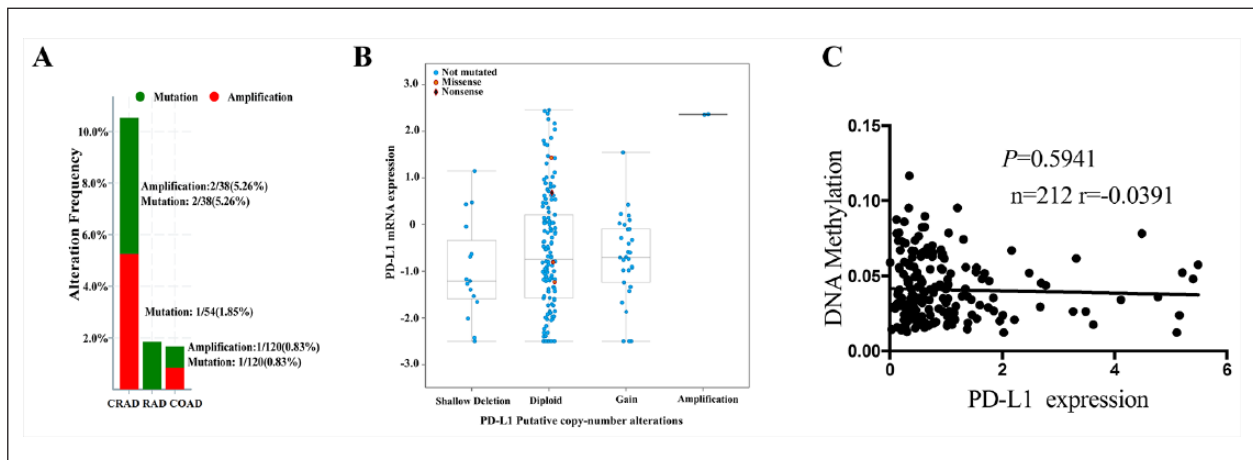
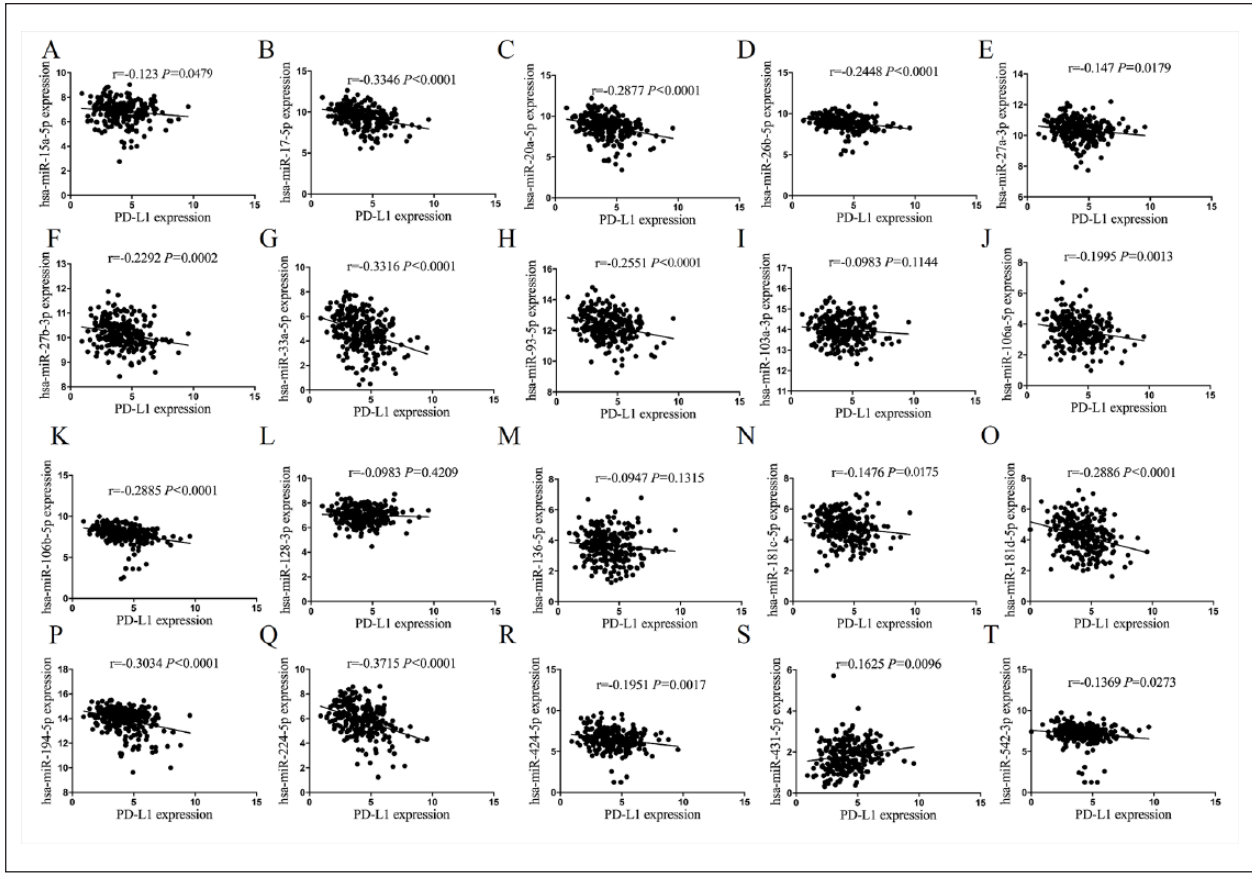


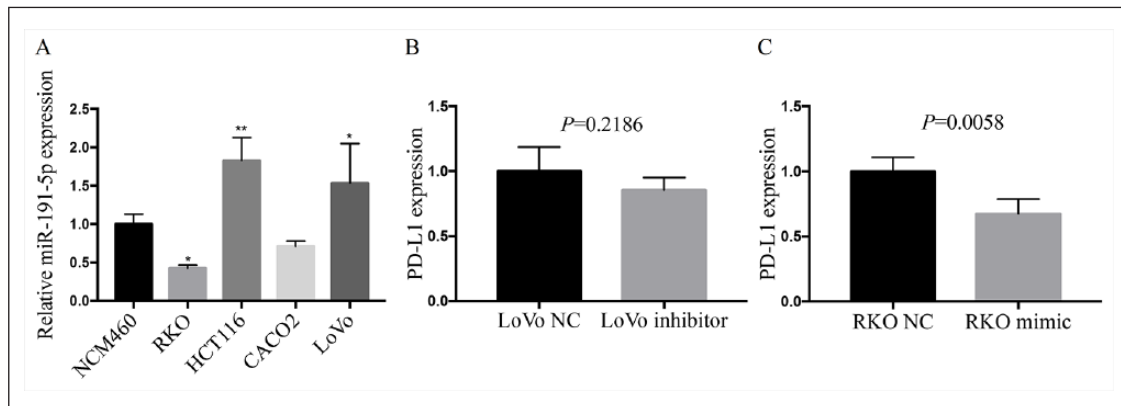
**Figure S1.** The expression of PD-L1 in patients with COAD and its correlation with overall survival **(A)** Differentially expressed level of PD-L1 in unpair-matched COAD tumor tissues and adjacent normal tissue. **(B)** Kaplan-Meier plotter analysis of the correlation of PD-L1 high or low expression with the overall survival in COAD patients with stage I+II.



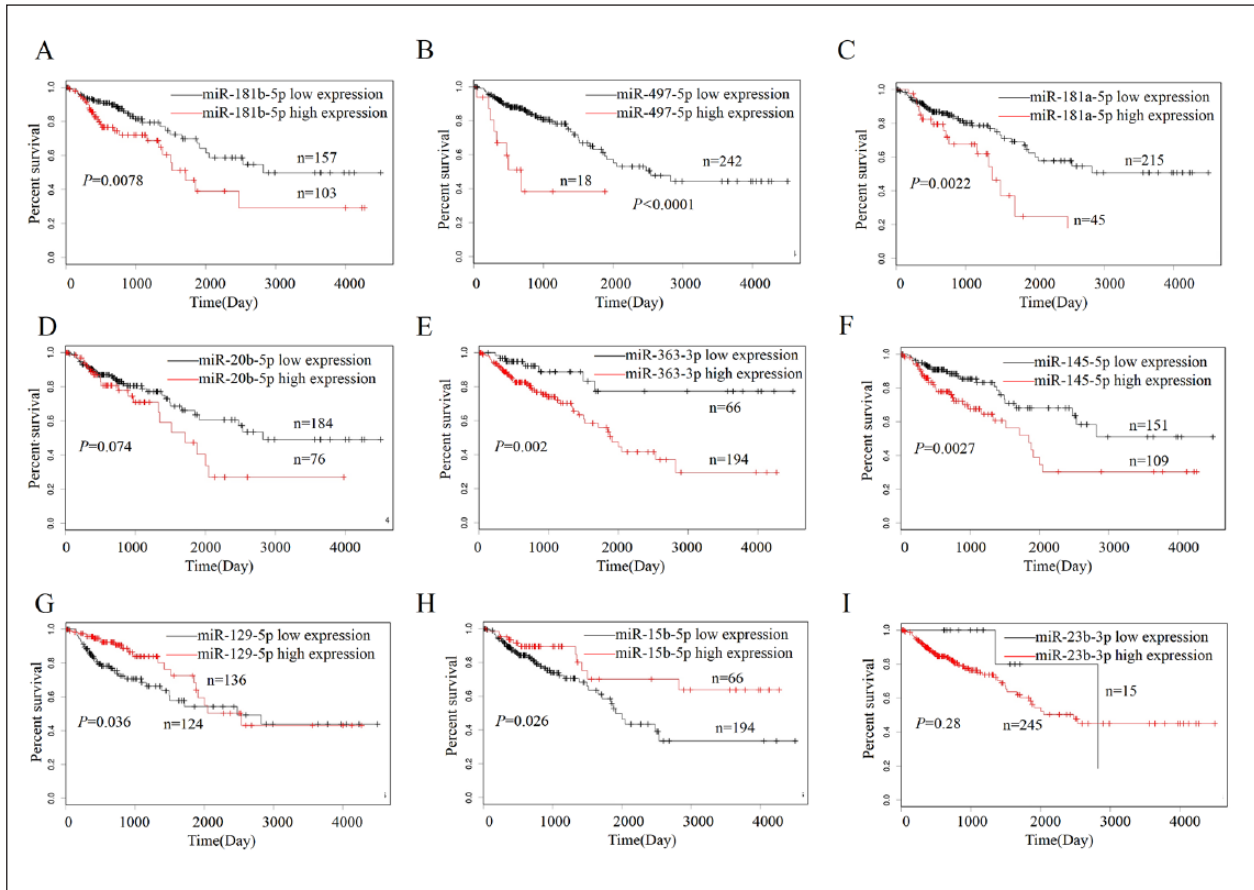
**Figure S2.** The genetic alteration frequency and the methylation levels of PD-L1 in CRC patients. **(A)** The genetic alteration frequency of PD-L1 amplification, and mutation in different pathological subtypes of CRC patients. CRAD: colorectal adenocarcinoma RAD: rectal adenocarcinoma COAD: colon adenocarcinoma **(B)** The correlation of PD-L1 gene expression with its putative copy number alterations in CRC samples. **(C)** The correlation of PD-L1 gene expression with its methylation level in CRC samples.



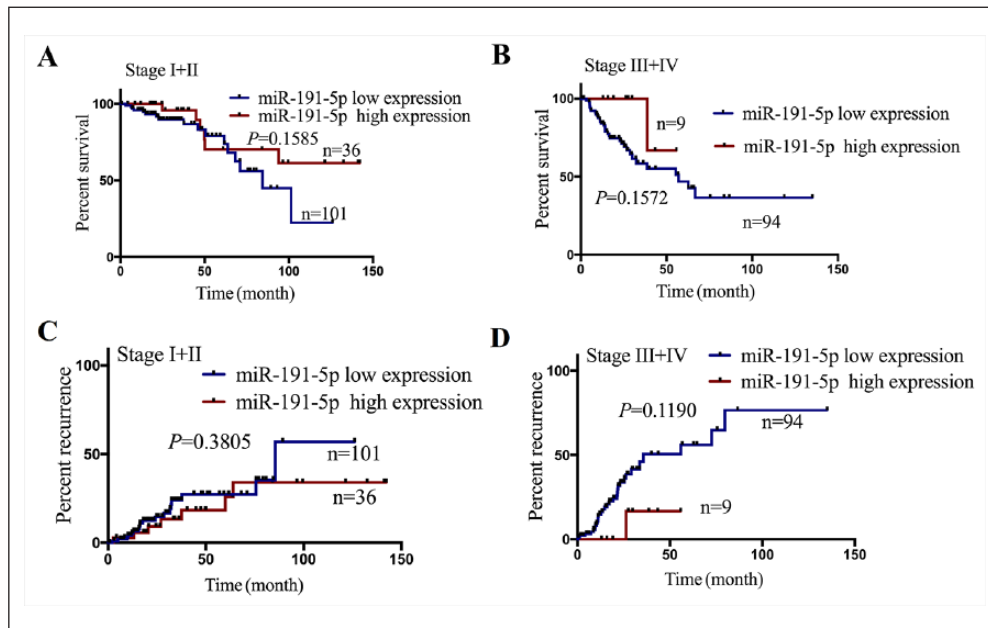
**Figure S3. (A~T)** Pearson correlation analysis of the correlation of PD-L1 expression with these 20 upregulated miRNAs in COAD samples.



**Figure S4.** RT-PCR analysis of effect of miR-191-5p on PD-L1 in colon cancer lines. **(A)** RT-PCR analysis of the expression level of miR-191-5p in colon cell lines and NCM460 cells. **(B and C)** RT-PCR analysis of the expression levels of miR-191-5p and PD-L1 after the transfection with miR-191-5p inhibitor in LoVo cells or miR-191-5p mimic in RKO cells. \*\*  $P < 0.001$ , \*  $P < 0.05$ .



**Figure S5.** (A~I) Kaplan-Meier analysis of the association of other downregulated miRNAs with the OS in patients with COAD.



**Figure S6.** The association of miR-191-5p expression with the OS and tumor recurrence in COAD patients. (A and B) Kaplan-Meier plotter analysis of the correlation of miR-191-5p high or low expression with the tumor overall survival of COAD patients with stage I+II or stage III+IV. (C and D) Kaplan-Meier plotter analysis of the correlation of miR-191-5p high or low expression with the tumor recurrence of COAD patients with stage I+II or stage III+IV.

**Table S1.** The clinicopathological data of COAD patients in TCGA.

Variables	Case (n=240, 100%)
Age (years)	
≥ 60	86 (35.83%)
< 60	154 (64.17%)
Gender	
Male	112 (46.67%)
Female	128 (53.33%)
Pathological stage	
I/II	137 (57.08%)
III/IV	103 (42.92%)
Lymphatic invasion	
No	167 (69.58%)
Yes	73 (30.42%)
Histological type	
CMA	33 (13.75%)
CA	207 (86.25%)

CMA: Colon Mucinous Adenocarcinoma, CA: Colon Adenocarcinoma.

**Table S2.** List of primers of the genes.

Gene	Forward primer	Reverse primer
PD-L1	5'-CTGTAGCACTGACATTCATCTTCCG-3'	5'-TGCCAATGCTGGATTACGTCTC-3'
β-Actin	5'-GTGGCCGAGGACTTTGATTG-3'	5'-CCTGTAACAACGCATCTCATATT-3'
has-miR-191-5p	5'-CAACGGAATCCCAAAAGCAGCTG-3'	5'-CAACGGAATCCCAAAAGCA -3'
U6	5'-GCTTCGGCAGCACATATACTAAAAT-3'	5'-CGCTTCACGAATTTGCGTGCAT-3'

**Table S3.** Cox regression analysis of PD-L1 as potential overall survival predictor.

Variables	Univariate Cox regression analysis		Multivariate Cox regression	
	RR (95% CI)	P value	RR (95% CI)	P value
Age(years)				
≤60 vs. >60	0.807 (0.604 to 1.077)	0.146	NA	NA
Gender				
Male vs Female	0.600 (0.350 to 1.028)	0.060	NA	NA
pathologic stage				
I+ II vs III+ IV	0.363 (0.212 to 0.619)	< 0.001	0.480 (0.263 to 0.876)	0.017
lymphatic invasion				
No vs Yes	0.478 (0.281 to 0.814)	0.007	0.715 (0.398 to 1.284)	0.262
Histological type				
CMA vs CA	0.826 (0.405 to 1.687)	0.600	NA	NA
PD-L1 expression				
Low vs High	1.637 (1.095 to 2.446)	0.016	1.397 (0.923 to 2.113)	0.114

RR: relative risk, CMA: Colon Mucinous Adenocarcinoma, CA: Colon Adenocarcinoma.

**Table S4.** Cox regression analysis of miR-191-5p as potential tumor recurrence predictor.

Variables	Univariate Cox regression analysis		Multivariate Cox regression	
	RR (95% CI)	P value	RR(95% CI)	P value
Age(years)				
≤60 vs. >60	1.414 (0.838 to 2.388)	0.195	NA	NA
Gender				
Male vs Female	0.601 (0.350 to 1.031)	0.065	NA	NA
pathologic stage				
I+ II vs III+ IV	0.398 (0.234 to 0.678)	0.001	0.628(0.340 to 1.160)	0.137
lymphatic invasion				
No vs Yes	0.355 (0.209 to 0.602)	< 0.001	0.465(0.256 to 0.844)	0.012
Histological type				
CMA vs CA	0.966 (0.437 to 2.132)	0.932	NA	NA
PD-L1 expression				
Low vs High	0.950(0.231 to 3.910)	0.943	NA	NA
miR-191-5p expression				
Low vs High	2.367 (1.112 to 5.037)	0.025	1.896(0.873 to 4.116)	0.106

RR: relative risk, CMA: Colon Mucinous Adenocarcinoma, CA: Colon Adenocarcinoma.