

**S1 Table.** Demographic and biological features in the two groups of initial RNA sequencing and identifying candidate gene expressions, respectively

| Parameters, number of patients<br>or mean $\pm$ SD | Group for initial RNA<br>sequencing, n = 18 | Group for candidate gene<br>expressions, n = 10 | <i>p</i> -value <sup>a</sup> |
|--|---|---|------------------------------|
| Sex, male/female                                   | 4/14  | 1/9   | 0.626                        |
| Age, years   | 60 $\pm$ 10                                 | 58 $\pm$ 8                                      | 0.567                        |
| Primary tumor site, colon/rectum                   | 10/8  | 7/3   | 0.689                        |
| CLM, single/multiple                               | 11/7  | 4/6   | 0.433                        |
| Level of serum CEA, ng/ml                          | 70.6 $\pm$ 163.2                            | 47 $\pm$ 99                                     | 0.677                        |
| Metastatic lymph node+                             | 12  | 6   | 1                            |
| Lymphovascular invasion+                           | 8   | 6   | 0.695                        |
| Perineural invasion+                               | 7   | 4   | 1                            |
| Differentiation of PCC, WD/MD/PD                   | 0/18/0                                      | 9/1   | 0.357                        |
| MSI of PCC, MSS/MSI-L/MSI-H                        | 17/0/1                                      | 10/0/0  | 1                            |
| p53 expression of PCC <sup>b</sup> , 0-1/2-4       | 7/11  | 4/5   | 1                            |
| <i>ALDH1A1</i> mRNA overexpression <sup>b</sup>    | 14  | 9   | 0.626                        |
| <i>IGFBP1</i> mRNA overexpression <sup>b</sup>     | 16  | 9   | 1                            |

SD, standard deviation; PCC, primary colorectal cancer; CLM, colorectal liver metastasis; CEA, carcinoembryonic antigen; WD/MD/PD, well-/moderately-/poorly-differentiated; MSI, microsatellite instability; MSS, microsatellite stable; MSI-L, MSI with low frequency; MSI-H, MSI with high frequency; ISR, intersphincteric resection; pStage, pathological AJCC stage; n.a., not applicable. Bold prints,  $p < 0.05$ .

<sup>a</sup>All parameters were compared using Fisher's exact test with two-sided verification or Pearson's  $\chi^2$  test and an unpaired Student's *t*-test.

<sup>b</sup>Nuclear expression of p53: 0, no expression; 1, 0– $\leq$ 25%; 2, >25– $\leq$ 50%; 3, >50– $\leq$ 75%; 4, >75%.

<sup>c</sup>Fold-changes of mRNA expression compared to that of normal colic epithelium: if greater in CLM than in PCC.