

## Supplementary Tables

**Supplementary Table S1. The clinical information of colorectal cancer tissue microarray.**

| #  | Position | Sex | Age | Tissue | Pathological Diagnosis  | Grade | Stage | TNM    |
|----|----------|-----|-----|--------|-------------------------|-------|-------|--------|
| 1  | A1       | F   | 42  | Colon  | Adenocarcinoma          | 1     | IIB   | T4N0M0 |
| 2  | A2       | M   | 65  | Colon  | Mucinous adenocarcinoma | 1     | IIA   | T3N0M0 |
| 3  | A3       | M   | 70  | Colon  | Adenocarcinoma          | 1     | IIA   | T3N0M0 |
| 4  | A4       | F   | 50  | Colon  | Adenocarcinoma          | 1     | IIIC  | T4N2M0 |
| 5  | A5       | F   | 53  | Colon  | Adenocarcinoma          | 1     | IIB   | T4N0M0 |
| 6  | A6       | M   | 34  | Colon  | Adenocarcinoma          | 1     | IIB   | T4N0M0 |
| 7  | A7       | M   | 72  | Colon  | Adenocarcinoma          | 1     | I     | T2N0M0 |
| 8  | A8       | M   | 51  | Colon  | Adenocarcinoma          | 1     | IIIC  | T4N2M0 |
| 9  | A9       | M   | 27  | Colon  | Adenocarcinoma          | 1     | IIB   | T4N0M0 |
| 10 | A10      | M   | 70  | Colon  | Adenocarcinoma          | 1     | IIIB  | T3N1M0 |
| 11 | A11      | F   | 60  | Colon  | Adenocarcinoma          | -     | IIA   | T3N0M0 |
| 12 | A12      | F   | 53  | Colon  | Adenocarcinoma          | 1     | IIA   | T3N0M0 |
| 13 | B1       | M   | 71  | Colon  | Adenocarcinoma          | 1     | IIA   | T3N0M0 |
| 14 | B2       | M   | 60  | Colon  | Adenocarcinoma          | 1     | IIA   | T3N0M0 |
| 15 | B3       | F   | 30  | Colon  | Adenocarcinoma          | 1     | IIIC  | T3N2M0 |
| 16 | B4       | M   | 55  | Colon  | Adenocarcinoma          | 1     | I     | T2N0M0 |
| 17 | B5       | F   | 49  | Colon  | Adenocarcinoma          | 1     | IIIB  | T4N1M0 |
| 18 | B6       | M   | 75  | Colon  | Adenocarcinoma          | 1     | IIB   | T4N0M0 |
| 19 | B7       | M   | 44  | Colon  | Adenocarcinoma          | -     | IIB   | T4N0M0 |
| 20 | B8       | M   | 82  | Colon  | Adenocarcinoma          | 1     | IIB   | T4N0M0 |
| 21 | B9       | M   | 86  | Colon  | Adenocarcinoma          | 1     | IIIB  | T4N1M0 |
| 22 | B10      | F   | 68  | Colon  | Adenocarcinoma          | 1     | IIIB  | T3N1M0 |
| 23 | B11      | F   | 65  | Colon  | Mucinous adenocarcinoma | 1     | IIA   | T3N0M0 |
| 24 | B12      | M   | 61  | Colon  | Mucinous adenocarcinoma | 1     | IIA   | T3N0M0 |
| 25 | C1       | F   | 59  | Colon  | Mucinous adenocarcinoma | 1     | IIIB  | T3N1M0 |
| 26 | C2       | M   | 32  | Colon  | Mucinous adenocarcinoma | 1     | IIA   | T3N1M0 |
| 27 | C3       | M   | 58  | Colon  | Mucinous adenocarcinoma | 1     | IV    | T4N1M1 |
| 28 | C4       | M   | 55  | Colon  | Mucinous adenocarcinoma | 2     | IIIC  | T3N2M0 |
| 29 | C5       | F   | 63  | Colon  | Adenocarcinoma          | 1     | IIB   | T4N0M0 |
| 30 | C6       | F   | 40  | Colon  | Mucinous adenocarcinoma | 1     | IIIB  | T3N1M0 |
| 31 | C7       | M   | 71  | Colon  | Adenocarcinoma          | 2     | IIIC  | T4N2M0 |
| 32 | C8       | M   | 61  | Colon  | Adenocarcinoma          | 2     | IIB   | T4N0M0 |
| 33 | C9       | F   | 86  | Colon  | Adenocarcinoma          | 2     | IIB   | T4N0M0 |
| 34 | C10      | M   | 64  | Colon  | Mucinous adenocarcinoma | 1     | IIB   | T4N0M0 |
| 35 | C11      | F   | 52  | Colon  | Adenocarcinoma          | 2     | IIA   | T3N0M0 |
| 36 | C12      | M   | 46  | Colon  | Adenocarcinoma          | 2     | IIB   | T4N0M0 |
| 37 | D1       | F   | 70  | Colon  | Adenocarcinoma          | 1     | IIB   | T4N0M0 |
| 38 | D2       | M   | 70  | Colon  | Adenocarcinoma          | 2     | IIA   | T3N0M0 |
| 39 | D3       | M   | 75  | Colon  | Adenocarcinoma          | 2     | IIB   | T4N0M0 |

|    |     |   |    |       |                              |   |      |        |
|----|-----|---|----|-------|------------------------------|---|------|--------|
| 40 | D4  | F | 51 | Colon | Adenocarcinoma (sparse)      | - | IIB  | T4N0M0 |
| 41 | D5  | M | 60 | Colon | Adenocarcinoma               | 2 | IIB  | T4N0M0 |
| 42 | D6  | F | 41 | Colon | Adenocarcinoma (sparse)      | - | IIB  | T4N0M0 |
| 43 | D7  | F | 60 | Colon | Adenocarcinoma               | 2 | IIB  | T4N0M0 |
| 44 | D8  | F | 48 | Colon | Adenocarcinoma               | 2 | IIA  | T3N0M0 |
| 45 | D9  | M | 66 | Colon | Mucinous adenocarcinoma      | 2 | IIA  | T3N0M0 |
| 46 | D10 | M | 73 | Colon | Adenocarcinoma               | 2 | IIIB | T4N1M0 |
| 47 | D11 | M | 75 | Colon | Adenocarcinoma               | 2 | IIA  | T3N0M0 |
| 48 | D12 | M | 37 | Colon | Adenocarcinoma               | - | IIIB | T4N1M0 |
| 49 | E1  | F | 44 | Colon | Adenocarcinoma               | 1 | IIA  | T3N0M0 |
| 50 | E2  | M | 35 | Colon | Adenocarcinoma               | - | IIIB | T4N1M0 |
| 51 | E3  | F | 53 | Colon | Adenocarcinoma               | 1 | IIA  | T3N0M0 |
| 52 | E4  | M | 70 | Colon | Adenocarcinoma               | 1 | IIA  | T3N0M0 |
| 53 | E5  | F | 40 | Colon | Adenocarcinoma               | 1 | IIB  | T4N0M0 |
| 54 | E6  | M | 53 | Colon | Mucinous adenocarcinoma      | 3 | IIA  | T3N0M0 |
| 55 | E7  | M | 28 | Colon | Mucinous adenocarcinoma      | 3 | IIB  | T4N0M0 |
| 56 | E8  | F | 71 | Colon | Adenocarcinoma               | 2 | IIA  | T3N0M0 |
| 57 | E9  | M | 58 | Colon | Adenocarcinoma               | 2 | IIB  | T4N0M0 |
| 58 | E10 | M | 74 | Colon | Adenocarcinoma               | 2 | IIA  | T3N0M0 |
| 59 | E11 | M | 69 | Colon | Adenocarcinoma               | 2 | IIIC | T4N2M0 |
| 60 | E12 | M | 66 | Colon | Adenocarcinoma               | 2 | IIA  | T3N0M0 |
| 61 | F1  | F | 71 | Colon | Mucinous adenocarcinoma      | 2 | II   | T3N0M0 |
| 62 | F2  | M | 76 | Colon | Mucinous adenocarcinoma      | 2 | IIA  | T3N0M0 |
| 63 | F3  | F | 76 | Colon | Adenocarcinoma               | 1 | I    | T2N0M0 |
| 64 | F4  | F | 50 | Colon | Mucinous adenocarcinoma      | 2 | IIB  | T4N0M0 |
| 65 | F5  | F | 60 | Colon | Mucinous adenocarcinoma      | 2 | IIIB | T3N1M0 |
| 66 | F6  | F | 49 | Colon | Mucinous adenocarcinoma      | 3 | IV   | T4N1M1 |
| 67 | F7  | M | 77 | Colon | Adenocarcinoma with necrosis | 2 | IIIB | T3N1M0 |
| 68 | F8  | F | 80 | Colon | Adenocarcinoma               | 2 | IIA  | T3N0M0 |
| 69 | F9  | F | 70 | Colon | Adenocarcinoma               | 2 | IIIC | T3N2M0 |
| 70 | F10 | M | 30 | Colon | Adenocarcinoma               | 2 | IIIA | T2N1M0 |
| 71 | F11 | M | 43 | Colon | Adenocarcinoma               | 2 | IIIB | T3N1M0 |
| 72 | F12 | M | 50 | Colon | Adenocarcinoma               | 2 | IV   | T2N1M1 |
| 73 | G1  | M | 41 | Colon | Adenocarcinoma               | 2 | IIIC | T4N2M0 |
| 74 | G2  | M | 66 | Colon | Adenocarcinoma with necrosis | - | IIA  | T3N0M0 |
| 75 | G3  | M | 79 | Colon | Adenocarcinoma               | 1 | IIA  | T3N0M0 |
| 76 | G4  | M | 49 | Colon | Adenocarcinoma               | 1 | IIB  | T4N0M0 |
| 77 | G5  | F | 56 | Colon | Adenocarcinoma               | - | IIA  | T3N0M0 |
| 78 | G6  | F | 73 | Colon | Adenocarcinoma               | 2 | IIIC | T4N2M0 |
| 79 | G7  | M | 77 | Colon | Adenocarcinoma               | 2 | IIA  | T3N0M0 |
| 80 | G8  | M | 50 | Colon | Adenocarcinoma               | 1 | I    | T2N0M0 |
| 81 | G9  | M | 48 | Colon | Adenocarcinoma               | 2 | IIA  | T3N0M0 |
| 82 | G10 | M | 44 | Colon | Adenocarcinoma               | 2 | IIB  | T4N0M0 |
| 83 | G11 | M | 31 | Colon | Adenocarcinoma               | 2 | IIB  | T4N0M0 |

|     |     |   |    |       |                              |   |      |        |
|-----|-----|---|----|-------|------------------------------|---|------|--------|
| 84  | G12 | M | 82 | Colon | Adenocarcinoma               | 2 | IIA  | T3N0M0 |
| 85  | H1  | M | 71 | Colon | Adenocarcinoma               | 2 | IIIC | T4N2M0 |
| 86  | H2  | M | 62 | Colon | Adenocarcinoma               | 2 | IIA  | T3N0M0 |
| 87  | H3  | M | 47 | Colon | Adenocarcinoma               | 2 | IIB  | T4N0M0 |
| 88  | H4  | M | 55 | Colon | Adenocarcinoma               | 2 | IIIB | T3N1M0 |
| 89  | H5  | M | 62 | Colon | Adenocarcinoma               | 2 | IV   | T4N0M1 |
| 90  | H6  | M | 38 | Colon | Adenocarcinoma               | 2 | IIIB | T4N1M0 |
| 91  | H7  | M | 50 | Colon | Adenocarcinoma               | 2 | II   | T4N0M0 |
| 92  | H8  | M | 70 | Colon | Mucinous adenocarcinoma      | 2 | IIB  | T4N0M0 |
| 93  | H9  | F | 22 | Colon | Adenocarcinoma               | 3 | IV   | T4N2M1 |
| 94  | H10 | M | 58 | Colon | Adenocarcinoma               | 3 | IIIB | T3N1M0 |
| 95  | H11 | M | 33 | Colon | Adenocarcinoma               | 3 | IIA  | T3N0M0 |
| 96  | H12 | M | 72 | Colon | Adenocarcinoma               | 3 | IIB  | T4N0M0 |
| 97  | I1  | M | 68 | Colon | Adenocarcinoma               | 3 | IV   | T4N0M1 |
| 98  | I2  | M | 54 | Colon | Mucinous adenocarcinoma      | 3 | IV   | T3N1M1 |
| 99  | I3  | M | 24 | Colon | Mucinous adenocarcinoma      | 3 | IIIC | T3N2M0 |
| 100 | I4  | M | 56 | Colon | Adenocarcinoma               | 3 | IIA  | T3N0M0 |
| 101 | I5  | M | 45 | Colon | Mucinous adenocarcinoma      | 3 | IIA  | T3N0M0 |
| 102 | I6  | M | 68 | Colon | Adenocarcinoma               | 3 | III  | T3N1M0 |
| 103 | I7  | M | 36 | Colon | Adenocarcinoma               | 3 | IIB  | T4N0M0 |
| 104 | I8  | F | 74 | Colon | Adenocarcinoma with necrosis | 3 | IIIB | T4N1M0 |
| 105 | I9  | M | 60 | Colon | Adenocarcinoma with necrosis | 3 | IIA  | T3N0M0 |
| 106 | I10 | F | 53 | Colon | Adenocarcinoma               | 3 | IIB  | T4N0M0 |
| 107 | I11 | M | 49 | Colon | Mucinous adenocarcinoma      | 3 | IIIB | T4N1M0 |
| 108 | I12 | M | 71 | Colon | Adenocarcinoma               | 2 | IIIB | T4N1M0 |
| 109 | J1  | M | 75 | Colon | Adenocarcinoma               | 3 | IIB  | T4N0M0 |
| 110 | J2  | F | 31 | Colon | Adenocarcinoma (sparse)      | - | IV   | T4N1M1 |
| 111 | J3  | M | 35 | Colon | Colon tissue                 | - | -    | -      |
| 112 | J4  | M | 25 | Colon | Colon tissue                 | - | -    | -      |
| 113 | J5  | M | 35 | Colon | Colon tissue                 | - | -    | -      |
| 114 | J6  | M | 30 | Colon | Colon tissue                 | - | -    | -      |
| 115 | J7  | M | 30 | Colon | Colon tissue                 | - | -    | -      |
| 116 | J8  | M | 40 | Colon | Colon tissue                 | - | -    | -      |
| 117 | J9  | M | 28 | Colon | Colon tissue                 | - | -    | -      |
| 118 | J10 | M | 45 | Colon | Colon tissue                 | - | -    | -      |
| 119 | J11 | M | 33 | Colon | Colon tissue                 | - | -    | -      |
| 120 | J12 | M | 30 | Colon | Colon tissue                 | - | -    | -      |

**Supplementary Table S2. Antibodies used in the present study.**

| Protein name | Manufacture<br>(cat. number)       | Manufacture<br>(cat. number)           | Website Link                                                                                                                                                                        |
|--------------|------------------------------------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAPDH        | Xianzhi<br>Bio(AB-P-R<br>001)      | IB(1:5000)                             | <a href="http://www.goodhere.com/showproduct.asp?id=320&amp;classified=34&amp;nid=2">http://www.goodhere.com/showproduct.asp?id=320&amp;classified=34&amp;nid=2</a>                 |
| GAPDH        | Proteintech<br>(10494-1-AP)        | IB(1:5000)                             | <a href="https://www.ptgcn.com/products/GAPDH-Antibody-10494-1-AP.htm">https://www.ptgcn.com/products/GAPDH-Antibody-10494-1-AP.htm</a>                                             |
| ETV4         | Proteintech<br>(10684-1-AP)        | IB(1:2000)<br>IHC-P(1:200)             | <a href="https://www.ptglab.com/products/ETV4-Antibody-10684-1-AP.htm">https://www.ptglab.com/products/ETV4-Antibody-10684-1-AP.htm</a>                                             |
| ETV4         | Abcam(ab70425)                     | IF(1:200)                              | <a href="http://www.abcam.cn/pea3-antibody-1a2g3-ab70425.html">http://www.abcam.cn/pea3-antibody-1a2g3-ab70425.html</a>                                                             |
| ETV4         | Sigma<br>(SAB1403795)              | IB(1:1000)                             | <a href="https://www.sigmaaldrich.cn/CN/zh/product/sigma/sab1403795?context=product">https://www.sigmaaldrich.cn/CN/zh/product/sigma/sab1403795?context=product</a>                 |
| ETV4         | Santa<br>Cruz(sc-113)              | IB(1:500)<br>IF(1:200)                 | <a href="https://www.scbt.com/p/pea3-antibody-16?requestFrom=search">https://www.scbt.com/p/pea3-antibody-16?requestFrom=search</a>                                                 |
| LOXL2        | Abcam(ab96233)                     | IB(1:1000)<br>IF(1:200)<br>ChIP(1:500) | <a href="http://www.abcam.cn/lox12-antibody-ab96233.html">http://www.abcam.cn/lox12-antibody-ab96233.html</a>                                                                       |
| LOXL2        | CST(99680)                         | IB(1:1000)                             | <a href="https://www.cellsignal.cn/products/primary-antibodies/lox12-e3p7y-rabbit-mab/99680">https://www.cellsignal.cn/products/primary-antibodies/lox12-e3p7y-rabbit-mab/99680</a> |
| E-cad        | Origene<br>(TA800692)              | IB(1:2000)<br>IF(1:200)                | <a href="http://www.origene.com/antibody/CDH1-TA800692.aspx">http://www.origene.com/antibody/CDH1-TA800692.aspx</a>                                                                 |
| E-cad        | Affinity(AF0131)                   | IB(1:1000)                             | <a href="https://www.affbiotech.cn/goods-56-AF0131-E_cadherin_Antibody.html">https://www.affbiotech.cn/goods-56-AF0131-E_cadherin_Antibody.html</a>                                 |
| N-cad        | Origene<br>(TA503933)              | IB(1:2000)<br>IF(1:200)                | <a href="http://www.origene.com/antibody/CDH2-TA503933.aspx">http://www.origene.com/antibody/CDH2-TA503933.aspx</a>                                                                 |
| N-cad        | Affinity(AF5239)                   | IB(1:1000)                             | <a href="https://www.affbiotech.cn/goods-4546-AF5239-N_Cadherin_Antibody.html">https://www.affbiotech.cn/goods-4546-AF5239-N_Cadherin_Antibody.html</a>                             |
| Twist        | Abcam(ab175430)                    | IB(1:1000)                             | <a href="http://www.abcam.cn/twist-antibody-10e4e6-ab175430.html">http://www.abcam.cn/twist-antibody-10e4e6-ab175430.html</a>                                                       |
| Vimentin     | CST (5741s)                        | IB(1:1000)<br>IF(1:200)                | <a href="http://www.cst-c.com.cn/products/5741.html">http://www.cst-c.com.cn/products/5741.html</a>                                                                                 |
| Vimentin     | Proteintech<br>(60330-1-Ig)        | IB(1:2000)                             | <a href="https://www.ptgcn.com/products/Vimentin-Antibody-60330-1-Ig.htm">https://www.ptgcn.com/products/Vimentin-Antibody-60330-1-Ig.htm</a>                                       |
| PCNA         | Ruiying<br>Biological<br>(RLM3031) | IHC-P(1:200)                           | <a href="http://rlgene.com/showproduct.asp?1_172">http://rlgene.com/showproduct.asp?1_172</a>                                                                                       |
| ERK1/2       | CST (1240)                         | IB(1:2000)                             | <a href="http://www.cst-c.com.cn/products/1240.html">http://www.cst-c.com.cn/products/1240.html</a>                                                                                 |
| P-ERK1/2     | CST(4695S)                         | IB(1:2000)                             | <a href="http://www.cst-c.com.cn/products/4695.html">http://www.cst-c.com.cn/products/4695.html</a>                                                                                 |
| NID1         | Proteintech<br>(13766-1-AP)        | IB (1:500)                             | <a href="https://www.ptgcn.com/products/NID1-Antibody-13766-1-AP.htm">https://www.ptgcn.com/products/NID1-Antibody-13766-1-AP.htm</a>                                               |
| Flag         | Sigma Aldrich                      | IP (1:50)                              | <a href="https://www.sigmaaldrich.com/catalog/product/">https://www.sigmaaldrich.com/catalog/product/</a>                                                                           |

|                                      |                         |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------|-------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                      | (F1804-200UG)           | IB(1:1000)  | sigma/f1804?lang=zh&region=CN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| DNMT1                                | GeneTex<br>(GTX116011)  | IB(1:1000)  | <a href="https://www.genetex.cn/Product/Detail/DNMT1-antibody-N1-N-term/GTX116011">https://www.genetex.cn/Product/Detail/DNMT1-antibody-N1-N-term/GTX116011</a>                                                                                                                                                                                                                                                                                                                                                     |
| TET1                                 | GeneTex<br>(GTX627420)  | IB(1:1000)  | <a href="https://www.genetex.cn/Product/Detail/TET1-antibody-GT1462/GTX627420">https://www.genetex.cn/Product/Detail/TET1-antibody-GT1462/GTX627420</a>                                                                                                                                                                                                                                                                                                                                                             |
| P300 (D2X6N)                         | CST(#54062S)            | ChIP(1:500) | <a href="https://www.cellsignal.cn/products/primary-antibodies/p300-d2x6n-rabbit-mab/54062?site-search-type=Products&amp;N=4294956287&amp;Ntt=54062s&amp;fromPage=plp&amp;_requestid=1169368">https://www.cellsignal.cn/products/primary-antibodies/p300-d2x6n-rabbit-mab/54062?site-search-type=Products&amp;N=4294956287&amp;Ntt=54062s&amp;fromPage=plp&amp;_requestid=1169368</a>                                                                                                                               |
| Anti-Mouse<br>secondary<br>antibody  | Abgent(ASS1007)         | IB(1:5000)  | <a href="http://www.abgent.com/products/ASS1007-Goat-Anti-Mouse-IgGHL-Human-ads-HRP-Secondary-Antibody">http://www.abgent.com/products/ASS1007-Goat-Anti-Mouse-IgGHL-Human-ads-HRP-Secondary-Antibody</a>                                                                                                                                                                                                                                                                                                           |
| Anti-Rabbit<br>secondary<br>antibody | Abgent<br>(ASS1009)     | IB (1:5000) | <a href="http://www.abgent.com/products/ASS1009-Goat-Anti-Rabbit-IgGHL-MouseHuman-ads-HRP-Secondary-Antibody">http://www.abgent.com/products/ASS1009-Goat-Anti-Rabbit-IgGHL-MouseHuman-ads-HRP-Secondary-Antibody</a>                                                                                                                                                                                                                                                                                               |
| Anti-Mouse<br>secondary<br>antibody  | Thermo(A-11031)         | IF(1:1000)  | <a href="https://www.thermofisher.com/antibody/product/Goat-anti-Mouse-IgG-H-L-Secondary-Antibody-Polyclonal/A-11031">https://www.thermofisher.com/antibody/product/Goat-anti-Mouse-IgG-H-L-Secondary-Antibody-Polyclonal/A-11031</a>                                                                                                                                                                                                                                                                               |
| Anti-Rabbit<br>secondary<br>antibody | Thermo(A-11034)         | IF(1:1000)  | <a href="https://www.thermofisher.com/antibody/product/Goat-anti-Rabbit-IgG-H-L-Secondary-Antibody-Polyclonal/A-11034">https://www.thermofisher.com/antibody/product/Goat-anti-Rabbit-IgG-H-L-Secondary-Antibody-Polyclonal/A-11034</a>                                                                                                                                                                                                                                                                             |
| PEA3                                 | Santa Cruz<br>(SC-126X) | ChIP(1:500) | <a href="http://www.scbt.com/datasheet-126-p53-do-1-antibody.html">http://www.scbt.com/datasheet-126-p53-do-1-antibody.html</a>                                                                                                                                                                                                                                                                                                                                                                                     |
| Normal mouse IgG                     | Millipore<br>(12-271)   | ChIP(1:500) | <a href="http://www.merckmillipore.com/CN/zh/product/Normal-Mouse-IgG,MM_NF-12-371">http://www.merckmillipore.com/CN/zh/product/Normal-Mouse-IgG,MM_NF-12-371</a>                                                                                                                                                                                                                                                                                                                                                   |
| HA                                   | CST<br>(3724S)          | IB(1:1000)  | <a href="https://www.cellsignal.com/products/primary-antibodies/ha-tag-c29f4-rabbit-mab/3724?site-search-type=Products&amp;N=4294956287&amp;Ntt=c29f4&amp;fromPage=plp">https://www.cellsignal.com/products/primary-antibodies/ha-tag-c29f4-rabbit-mab/3724?site-search-type=Products&amp;N=4294956287&amp;Ntt=c29f4&amp;fromPage=plp</a>                                                                                                                                                                           |
| Flag                                 | CST<br>(14793S)         | IB(1:1000)  | <a href="https://www.cellsignal.com/products/primary-antibodies/dykdddk-tag-d6w5b-rabbit-mab-binds-to-same-epitope-as-sigma-s-anti-flag-m2-antibody/14793?site-search-type=Products&amp;N=4294956287&amp;Ntt=14793s&amp;fromPage=plp&amp;_requestid=2607052">https://www.cellsignal.com/products/primary-antibodies/dykdddk-tag-d6w5b-rabbit-mab-binds-to-same-epitope-as-sigma-s-anti-flag-m2-antibody/14793?site-search-type=Products&amp;N=4294956287&amp;Ntt=14793s&amp;fromPage=plp&amp;_requestid=2607052</a> |
| FAK                                  | CST (3285P)             | IB(1:1000)  | <a href="https://www.cellsignal.cn/products/primary-antibodies/fak-antibody/3285?site-search-type=Products&amp;N=4294956287&amp;Ntt=3285p&amp;fromPage=plp&amp;_requestid=2477034">https://www.cellsignal.cn/products/primary-antibodies/fak-antibody/3285?site-search-type=Products&amp;N=4294956287&amp;Ntt=3285p&amp;fromPage=plp&amp;_requestid=2477034</a>                                                                                                                                                     |
| P-FAK                                | CST (8556P)             | IB(1:1000)  | <a href="https://www.cellsignal.cn/products/primary-antibodies/phospho-fak-tyr397-d20b1-rabbit-mab/8556?site-search-type=Products&amp;N=4294956287&amp;Ntt=8556p&amp;fromPage=plp&amp;_requestid=2477240">https://www.cellsignal.cn/products/primary-antibodies/phospho-fak-tyr397-d20b1-rabbit-mab/8556?site-search-type=Products&amp;N=4294956287&amp;Ntt=8556p&amp;fromPage=plp&amp;_requestid=2477240</a>                                                                                                       |
| P-FAK                                | Invitrogen(700154)      | IB(1:1000)  | <a href="https://www.thermofisher.cn/cn/zh/antibody/product/Phospho-FAK-Tyr861-Antibody-clone-26H16L4-Recombinant-Monoclonal/700154">https://www.thermofisher.cn/cn/zh/antibody/product/Phospho-FAK-Tyr861-Antibody-clone-26H16L4-Recombinant-Monoclonal/700154</a>                                                                                                                                                                                                                                                 |

**Supplementary Table S3. The clinical pathological information of Colorectal Cancer cDNA**

**Array.**

| #  | NO. | Gender | Stage |
|----|-----|--------|-------|
| 1  | C1  | Male   | 0     |
| 2  | C2  | Male   | 0     |
| 3  | C3  | Male   | 0     |
| 4  | C4  | Female | 0     |
| 5  | C5  | Female | 0     |
| 6  | C6  | Male   | I     |
| 7  | C7  | Female | I     |
| 8  | C8  | Female | I     |
| 9  | C9  | Female | I     |
| 10 | C10 | Female | I     |
| 11 | C11 | Female | I     |
| 12 | C12 | Male   | II    |
| 13 | D1  | Male   | IIA   |
| 14 | D2  | Female | IIA   |
| 15 | D3  | Female | IIA   |
| 16 | D4  | Female | IIA   |
| 17 | D5  | Male   | IIA   |
| 18 | D6  | Female | IIA   |
| 19 | D7  | Female | IIA   |
| 20 | D8  | Male   | IIA   |
| 21 | D9  | Male   | IIA   |
| 22 | D10 | Male   | IIA   |
| 23 | D11 | Male   | IIA   |
| 24 | D12 | Male   | IIA   |
| 25 | E1  | Male   | IIA   |
| 26 | E2  | Male   | IIA   |
| 27 | E3  | Female | IIB   |
| 28 | E4  | Male   | IIB   |
| 29 | E5  | Male   | IIB   |
| 30 | E6  | Male   | III   |
| 31 | E7  | Male   | III   |
| 32 | E8  | Female | III   |
| 33 | E9  | Female | III   |
| 34 | E10 | Female | III   |
| 35 | E11 | Female | IIIA  |
| 36 | E12 | Female | IIIA  |
| 37 | F1  | Male   | IIIA  |
| 38 | F2  | Female | IIIB  |
| 39 | F3  | Male   | IIIB  |

|    |     |        |      |
|----|-----|--------|------|
| 40 | F4  | Female | IIIB |
| 41 | F5  | Male   | IIIC |
| 42 | F6  | Male   | IIIC |
| 43 | F7  | Male   | IIIC |
| 44 | F8  | Male   | IV   |
| 45 | F9  | Male   | IV   |
| 46 | F10 | Female | IV   |

**Supplementary Table S4. List of primer sequences used for RT-qPCR analyses.**

| Gene name | Primer name and sequences                                                                                                                                                                                                   |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAPDH     | F833: 5'-ACCTGACCTGCCGTCTAGAA-3'<br>R1060: 5'-TCCACCACCCTGTTGCTGTA-3'                                                                                                                                                       |
| ETV4      | F664: 5'-AGCAGTGCCTTTACTCCAGT-3'<br>R899: 5'-CCCTCCCTGAGATGTGAAGG-3'<br>F1221: 5'-GATGATGTCTGCGTTGTCCC-3'<br>R1385: 5'-CCAGGCAATGAAATGGGCAT-3'<br>F1199: 5'-GAAACCTCTGCGACCATTCC -3'<br>R1351: 5'- AGCAAGGCCACCAGAAATTG -3' |
| LOXL2     | F1274: 5'-CCTCAAGATTCCGAAAGCG-3'<br>R1522: 5'-ACTGGATCTCGTTGAGGTGG-3'                                                                                                                                                       |
| E-cad     | F764: 5'-TGAAGGTGACAGAGCCTCTGGAT-3'<br>R915: 5'-TGGGTGAATTCGGGCTTGTT-3'                                                                                                                                                     |
| N-cad     | F1685: 5'-ATCAACCCCATACACCAGCC-3'<br>R1790: 5'-ACTAACCCGTCGTTGCTGTT-3'                                                                                                                                                      |
| Vimentin  | F1369: 5'-CCAAACTTTTCTCCCTGAACC-3'<br>R1510: 5'-GTGATGCTGAGAAGTTTCGTTGA-3'                                                                                                                                                  |
| Snail     | F32: 5'-GGTTCTTCTGCGCTACTGCT -3'<br>R138: 5'-GTTAGGCTTCCGATTGGGGT -3'                                                                                                                                                       |
| Twist1    | F1315: 5'-TCTCAAGAGGTCGTGCCAAT -3'<br>R1457: 5'-ATGGTTTTGCAGGCCAGTTT-3'                                                                                                                                                     |
| Twist2    | F1246: 5'-TCTCCGTGATTGCTTGCTA-3'<br>R1374: 5'-AGCAGGATACACAGCCACAC-3'                                                                                                                                                       |
| Zeb1      | F209: 5'-GAGGATGACCTGCCAACAGA -3'<br>R314: 5'-CTTGCCCTTCCTTTCCTGTG -3'                                                                                                                                                      |
| Zeb2      | F803: 5'-AACACCCCTGGCACAACAA -3'<br>R912: 5'-AATTGCGGTCTGGATCGTGG -3'                                                                                                                                                       |
| ARNTL2    | F1174: 5'-TACTTGAGAAGCTGGCCTCC-3'<br>R1357: 5'-TTCCATTCACTGCAAACCGG-3'                                                                                                                                                      |
| PER3      | F795: 5'-GGTATTCTACGCGCACACTG-3'<br>R1024: 5'-TGAGACAGCAAGGTTCCGAT-3'                                                                                                                                                       |
| THRB      | F1345: 5'-TTTGACCTGGGCATGTCTCT-3'<br>R1584: 5'-GGCTCCTATCATCCGCAGAT-3'                                                                                                                                                      |
| ADRB2     | F964: 5'- CCTTACCTCCTTCTTGCCCA-3'<br>R1142: 5'-CCCTGGAGTAGACGAAGACC-3'                                                                                                                                                      |
| E2F2      | F809: 5'-ACTCGGTATGACACTTCGCT-3'<br>R1036: 5'-TCTGGTGGGGTCTTCAAACA-3'                                                                                                                                                       |
| NRP1      | F1501: 5'-ACAGGTAGACTTGGGCCTTC-3'<br>R1694: 5'-CAACATCTGTGGGGTTGGTG-3'                                                                                                                                                      |
| WISP2     | F1025: 5'-GTCGCAGTCCACAAAACAGT-3'<br>R1184: 5'-GGTGGACCCAAGCTAAAGTG-3'                                                                                                                                                      |



|         |                                                                         |
|---------|-------------------------------------------------------------------------|
| COL11A1 | F1275: 5'-GCCTGGTATGCTTGTCGAAG-3'<br>R1508: 5'-TCCTGAGCAGAGATGGTTGG-3'  |
| DLC1    | F606: 5'-AACTCCGTCATCAGCGTTTG-3'<br>R766: 5'-TCCATCCGTTTCAGCAGACT-3'    |
| FGF2    | F624: 5'-AGGAGTGTGTGCTAACCGTT-3'<br>R790: 5'-CAGTTCGTTTCAGTGCCACA-3'    |
| KRAS    | F17: 5'-TTGTGGTAGTTGGAGCTGGT-3'<br>R182:5'- TGACCTGCTGTGTCGAGAAT-3'     |
| NID1    | F388:5'-TTATCCCCCTCCATCACTCA-3'<br>R539: 5'-CTCTTGCCTTTCTGGTCTGG-3'     |
| NRG1    | F453: 5'-CTGTGTGAATGGAGGGGAGT-3'<br>R692: 5'-TAGGCCACCACACACATGAT-3'    |
| PDGFRB  | F2615:5'- CGGAGAGCATCTTCAACAGC-3'<br>R2848:5'- GGGGCCGAATCTCAAACCTTC-3' |

#### PCR primers used for MSP

| Gene name | Primer name and sequences         |
|-----------|-----------------------------------|
| NID1_MF   | 5'- GAGGGTTTCGTTTCGTTTAGC-3'      |
| NID1_MR   | 5'- AACGCCGTTTCGCTAAAAATCG-3'     |
| NID1_UF   | 5'- GAGGGTTTGTGTTTGTGTTAGT-3'     |
| NID1_UR   | 5'- AAAAACACCATTCACTAAAAATCA-3'   |
| GAPDH-UF  | 5'- GGTAAGGTTATTTTTGAGTTGAATG-3'  |
| GAPDH-UR  | 5'- CATATTTAACAAATTTTCTAAACAAC-3' |

#### Primers used for ChIP analysis

| Primer name     | Primer sequence                                                      |
|-----------------|----------------------------------------------------------------------|
| LOXL2-ChIP-EBS2 | F:5'-TGGGCTGGAGGTGAGATT-3'<br>R:5'-CAGCGAGCTGCAAAACAA-3'             |
| LOXL2-ChIP-EBS5 | F:5'-GGAGGAAAGGGTAGAGGAA-3'<br>R:5'-GAGGAGGATGGCAAACCC-3'            |
| NID1-ChIP-EBS1  | F:5'-GCTCTGTCCCTTGGCTGATT-3'<br>R:5'-ATTAGGGTTGGGTCGTGGAGA-3'        |
| NID1-ChIP-EBS2  | F:5'-TTCTCCTCTTCAATGCCAATCTT-3'<br>R:5'-TGGTATCCTGAATAATCGGTTGA-3'   |
| NID1-ChIP-EBS3  | F:5'-TAGGTTCAAGGTCGTTACTTTTAGC-3'<br>R:5'-GATTGGCATTGAAGAGGAGAAGA-3' |

**Supplementary Table S5. List of siRNA sequences.**

| Name                   | Sequences                                                                      |
|------------------------|--------------------------------------------------------------------------------|
| Negative control siRNA | Sense:5'-UUCUCCGAACGUGUCACGUUU-3'<br>Antisense:5'-AAACGUGACACGUUCGGAGAA-3'     |
| ETV4 siRNA             | Sense:5'-AAGGGUGGCUACUCUUACUTT-3'<br>Antisense:5'-AGUAAGAGUAGCCACCCUUTT-3'     |
| LOXL2 siRNA            | Sense:5'-GGAGGACACAGAAUGUGAATT-3'<br>Antisense:5'-UUCACAUUCUGUGUCCUCCTT-3'     |
| NID1 siRNA             | Sense:5'-CCUCCACUCUUACGUAGUAAUTT-3'<br>Antisense:5'-AUUACUACGUAAGAGUGGAGGTT-3' |

**Supplementary Table S6. Primers for recombinant plasmids.****Primers for luciferase reporter constructions**

| Constructs  | Methods           | Primer and/or Enzymes used                                                                                                       |
|-------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------|
| LOXL2-P1773 | PCR based cloning | F849:ATTTCTCTATCGATAGGTACCGTGAGATGTGGTTGGCAGTT<br><i>KpnI</i><br>R2622:GCTTACTTAGATCGCAGATCTCACCAAGCGTAGGTAGCC<br><i>BglII</i>   |
| NID1-P2355  | PCR based cloning | F891:ATTTCTCTATCGATAGGTACCGGATGGACCAATAGGAGTTT<br><i>KpnI</i><br>R3244:GCTTACTTAGATCGCAGATCTCGATGTCGGATCTGTCGTAG<br><i>BglII</i> |

**Primers for mutant constructions**

| Name              | Sequences                                                                                                 |
|-------------------|-----------------------------------------------------------------------------------------------------------|
| LOXL2-P1773-EBS2m | Sense:5'-GTCTTCCTTCGCCGCTTTCAGGTGACA-3'<br>Antisense:5'-GTCCTCTCTTACTCCACTCCCTGAGGAGACAA-3'               |
| LOXL2-P1773-EBS5m | Sense:5'-GAATTCCCAACGGGCGCGAGGAGCC-3'<br>Antisense:5'-GCCTGAGATGCCGGGAAGGGGGCCTTTC-3'                     |
| NID1-P2355-EBS1m  | Sense:5'-CACTTCCCATGGGACGTCCTGTTGACCGCTGA-3'<br>Antisense:5'-CAGCAGCTAAAAGTAACGACCTTGAACCTAGTT-3'         |
| NID1-P2355-EBS1m  | Sense:5'-GACTTCGAAACTTAAATCGCTTATCTCCCTTTGTCAAGA-3'<br>Antisense:5'-ATAATCGGTTGATCGTTACTTTGGCACTAGGGTG-3' |
| NID1-P2355-EBS1m  | Sense:5'-AAATTCATATGCCGAGCGGCAATGGGG-3'<br>Antisense:5'-GTCCAATTCGCTTGACCCTGGTAGGAAGACGGGGTG-3'           |

**Primers for truncated constructions**

| Name                        | Sequences                                                                                                                  |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------|
| pcDNA3.0-Flag-ETV4(1-339)   | Sense:5'-GACCCAGCTTTCTTGTACAAAGTG-3'<br>Antisense:5'-ACCCCGGCGCTGGTAG-3'                                                   |
| pcDNA3.0-Flag-ETV4(278-484) | Sense:5'-ATGTACCTCCACACAGAGGGCTTC-3'<br>Antisense:5'-CTTATCGTCGTCGTCCTTGTAATCC-3'                                          |
| pcDNA3.0-Flag-ETV4(340-484) | Sense:5'-GCCCTGCAGCTGTGGCAATT-3'<br>Antisense:5'-CTTATCGTCGTCGTCCTTGTAATCCA-3'                                             |
| GST-ETV4(1-339)             | Sense:5'-CGGGATCCATGGAACGTCGCATGAAAGCAGGCT-3' <i>BamH I</i><br>Antisense:5'-CCGCTCGAGACCGCGGCGCTGATACGGCGGA-3' <i>XhoI</i> |

**Supplementary Table S7. The transcription factors of common differentially expressed genes (DEGs) among three CRC datasets**

| Gene    | GSE4183_<br>logFC | GSE20916_<br>logFC | TCGA-COAD_<br>logFC | Species      | ensembl_gene_id |
|---------|-------------------|--------------------|---------------------|--------------|-----------------|
| FOXQ1   | 2.416587657       | 6.988616745        | 5.402373972         | Homo_sapiens | ENSG00000164379 |
| ETV4    | 1.783844399       | 2.571062609        | 4.72539579          | Homo_sapiens | ENSG00000175832 |
| MSX2    | 1.385191547       | 3.07503765         | 3.778447214         | Homo_sapiens | ENSG00000120149 |
| ZIC2    | 1.315136922       | 1.983908355        | 3.039841397         | Homo_sapiens | ENSG00000043355 |
| WT1     | 1.037269516       | 1.697091125        | 2.953935065         | Homo_sapiens | ENSG00000184937 |
| FOSL1   | 1.032546628       | 1.397366589        | 2.800275982         | Homo_sapiens | ENSG00000175592 |
| NFE2L3  | 1.371167388       | 3.389356409        | 2.074785224         | Homo_sapiens | ENSG00000050344 |
| ARNTL2  | 1.814088635       | 2.244923607        | 1.756266603         | Homo_sapiens | ENSG00000029153 |
| TEAD4   | 1.904293897       | 1.760607232        | 1.686903206         | Homo_sapiens | ENSG00000197905 |
| GRHL1   | 1.946582032       | 0.92752845         | 1.630989319         | Homo_sapiens | ENSG00000134317 |
| MYC     | 1.055152424       | 2.186096985        | 1.270365792         | Homo_sapiens | ENSG00000136997 |
| DACH1   | 0.909830725       | 1.739176493        | 1.013779709         | Homo_sapiens | ENSG00000276644 |
| TWIST1  | 0.989141624       | 1.862761878        | 0.991585989         | Homo_sapiens | ENSG00000122691 |
| ZNF91   | -0.852991156      | -1.4933755         | -1.070016266        | Homo_sapiens | ENSG00000167232 |
| ZNF704  | -0.887926487      | -1.868345729       | -1.206257819        | Homo_sapiens | ENSG00000164684 |
| HOXA5   | -1.08758917       | -1.615972703       | -1.502705041        | Homo_sapiens | ENSG00000106004 |
| ZFP3    | -0.85646124       | -1.689357175       | -1.880715495        | Homo_sapiens | ENSG00000180787 |
| TFCP2L1 | -0.854777456      | -2.446227599       | -2.043918032        | Homo_sapiens | ENSG00000115112 |
| ZBTB7B  | -1.031978278      | -1.117624747       | -2.066603389        | Homo_sapiens | ENSG00000160685 |
| TEF     | -0.866182219      | -1.530461137       | -2.372602512        | Homo_sapiens | ENSG00000167074 |
| MIER3   | -1.284334378      | -1.359472802       | -2.48375564         | Homo_sapiens | ENSG00000155545 |
| ZNF575  | -1.28852525       | -1.624291354       | -2.535810473        | Homo_sapiens | ENSG00000176472 |
| ZNF415  | -1.007666704      | -1.344370433       | -2.622543025        | Homo_sapiens | ENSG00000170954 |
| NR5A2   | -1.119867074      | -3.531134691       | -3.101629668        | Homo_sapiens | ENSG00000116833 |
| TCF21   | -1.026551377      | -1.722132158       | -3.144913067        | Homo_sapiens | ENSG00000118526 |
| RFX6    | -1.517582559      | -1.057872221       | -3.180256142        | Homo_sapiens | ENSG00000185002 |
| KLF4    | -0.878855462      | -2.50434832        | -3.239343519        | Homo_sapiens | ENSG00000136826 |
| ZBTB7C  | -1.776239225      | -3.42090502        | -3.397782041        | Homo_sapiens | ENSG00000184828 |
| THRB    | -1.804858893      | -2.589019009       | -3.488621341        | Homo_sapiens | ENSG00000151090 |
| NR3C2   | -1.256501239      | -3.312399558       | -3.546916766        | Homo_sapiens | ENSG00000151623 |
| NKX2-3  | -1.044638088      | -2.436903227       | -3.607081348        | Homo_sapiens | ENSG00000119919 |
| ISX     | -1.529523575      | -2.786487964       | -3.71280956         | Homo_sapiens | ENSG00000175329 |
| AFF3    | -0.913297224      | -1.242760499       | -3.885573679        | Homo_sapiens | ENSG00000144218 |
| NEUROD1 | -2.509889536      | -1.171760602       | -4.759083735        | Homo_sapiens | ENSG00000162992 |
| SPIB    | -2.358969003      | -1.975018204       | -6.152089965        | Homo_sapiens | ENSG00000269404 |

**Supplementary Table S8. Immunohistochemistry analysis of ETV4 expression in colorectal cancer.**

| Pathological variables   | Sample no. | ETV4 IHC staining(%) |           |           | P value (a) |
|--------------------------|------------|----------------------|-----------|-----------|-------------|
|                          |            | IRS 0                | IRS 1     | IRS 2     |             |
| Normal                   | 10         | 0(0)                 | 6 (60.0)  | 4(40.0)   | 0.003*      |
| Malignant                | 108        | 3 (2.8)              | 15 (13.9) | 90 (83.3) |             |
| <b>Stage</b>             |            |                      |           |           | 0.073       |
| I+II                     | 69         | 0 (0)                | 9 (13.0)  | 60 (87.0) |             |
| III+IV                   | 39         | 3 (7.7)              | 6 (15.4)  | 30 (76.9) |             |
| <b>Lymph node status</b> |            |                      |           |           | 0.049*      |
| pN0                      | 71         | 0 (0)                | 9 (15.3)  | 62 (68)   |             |
| pN1+                     | 37         | 3 (21.6)             | 6 (8.1)   | 28 (70.3) |             |
| <b>Grade</b>             |            |                      |           |           | 0.043*      |
| 1                        | 37         | 0 (0)                | 6 (16.2)  | 31 (83.8) |             |
| 2                        | 45         | 0 (0)                | 3 (6.7)   | 42 (93.3) |             |
| 3                        | 19         | 1 (5.3)              | 5 (26.3)  | 13 (68.4) |             |
| <b>Missing</b>           | 7          |                      |           |           | 0.706       |
| <b>Tumour size</b>       |            |                      |           |           |             |
| T1                       |            |                      |           |           |             |
| T2                       | 4          | 0 (0)                | 0 (0)     | 4(100.0)  |             |
| T3                       | 49         | 1 (2.0)              | 9 (18.4)  | 39 (79.6) |             |
| T4                       | 53         | 2 (3.8)              | 6 (11.3)  | 45 (84.9) |             |

**a. Fisher's Exact Test**

**\* P value<0.05**

**IRS0=0; IRS1≤3; IRS2>3**