| Antibodies                          | Supplier                                | Cat. no. | Dilution WB | Dilution IHC |
|------------------------------------|-----------------------------------------|----------|-------------|--------------|
| Mouse monoclonal anti-p53         | Santa Cruz Biotechnology, Inc.          | sc-263   | 1/1000      | 1/200        |
| Mouse monoclonal anti-SMAD4       | Affinity Biosciences                    | BF1003   | 1/1000      | 1/100        |
| Rabbit Polyclonal anti-CDKN2A     | ProteinTech Group, Inc.                 | 10883-1-AP | 1/500      | 1/100        |
| Rabbit monoclonal anti-E-Cadherin | Cell Signaling Technology, Inc.         | 3195     | 1/1000      | 1/400        |
| Rabbit Polyclonal anti-Vimentin   | ProteinTech Group, Inc.                 | 10366-1-AP | 1/1000    | 1/1000       |
| Rabbit monoclonal anti-HER2       | Cell Signaling Technology, Inc.         | 4290     | 1/1000      | -            |
| Rabbit monoclonal anti-EGFR       | Abcam                                   | ab52894  | 1/1000      | -            |
| Rabbit monoclonal anti-c-Met      | Epitomics; Abcam                        | 1996-1   | 1/1000      | -            |
| Rabbit monoclonal anti-PD-L1      | Cell Signaling Technology, Inc.         | 13684    | 1/1000      | -            |
| Rabbit monoclonal anti-β-Actin    | Cell Signaling Technology, Inc.         | 4970     | 1/1000      | -            |
| Rabbit monoclonal anti-ERK1 +ERK2 | Abcam                                   | ab184699 | 1/1000      | -            |
| Rabbit monoclonal anti-p44/42 ERK1/2 | Cell Signaling Technology, Inc.    | 4695     | 1/1000      | -            |
| Rabbit monoclonal anti-c-MYC      | Epitomics; Abcam                        | 1472-1   | 1/1000      | -            |
| Rabbit monoclonal anti-Bcl-2      | Abcam                                   | ab182858 | 1/1000      | -            |
| Anti-rabbit IgG, HRP-linked Antibody | Cell Signaling Technology, Inc. | 7074     | 1/5000     |              |
| Anti-mouse IgG, HRP-linked Antibody | Cell Signaling Technology, Inc. | 7076     | 1/5000     |              |

WB, western blotting; IHC, immunohistochemistry; CDKN2A, cyclin-dependent kinase inhibitor 2A; EGFR, epidermal growth factor receptor; PD-L1, programmed cell death 1 ligand 1.
| Genes        | Primer sequences (5’-3’)                  |
|--------------|------------------------------------------|
| EpCAM        | Forward: GTGTGTGAAACACTGCTGGGG
Reverse: CTGAAGTGCACTGCCGCAA-ACCTT |
| E-Cadherin   | Forward: GGCTGGACCGAGAGAGTTTCC
Reverse: CGTTCTCAGGCACCTGACCC   |
| CK19         | Forward: ATTGAACCGGAGGTCTGGCTG
Reverse: TTCCAAGGCAGCTTTCATGCTC |
| Vimentin     | Forward: GGAAGGCGAGAGAGCAAGACAGATT
Reverse: TTCAAGGTCATCGTGATGCTGAGA |
| Snail        | Forward: CGGCCTAGCGAGTGGTTCTT
Reverse: GGCTGCTGGAAGAGTAACCTGG |
| CD133        | Forward: CAGCACTTGCTGAGCTGTGT
Reverse: GGAAGGACTGCAGTGTGGTG |
| CD44         | Forward: AGCACAATCCAGGCAACTCTTA
Reverse: GGCTGGATAGCAGCTGAGCTG |
| ALDH-1       | Forward: TGCTCTCAGTGCGCATCTTT
Reverse: TTGCCAACCTCTGATCCTCTT |
| VEGFA        | Forward: TAATGCCCTGGAGCCTCCCT
Reverse: GGCTTGTCACTGCAAGTACCG |
| c-Met        | Forward: TTGGGACATCAGGGTGTCGC
Reverse: GGGATCTTCGTGATCTTCCAAG |
| GAPDH        | Forward: CTITAGCACTTCGGGCAAG
Reverse: GATGTTCCTGGAGACCCCG |

ALDH-1, aldehyde dehydrogenase 1; VEGFA, vascular endothelial growth factor A; EpCAM, epithelial cell adhesion molecule; CK19, keratin 19.
Table SIII. List of therapeutic compounds used.

| Drug name     | Supplier          | Cat. no. | Max concentrationa |
|---------------|-------------------|----------|---------------------|
| 5-Fu          | Selleck Chemicals | S1209    | 50 μM               |
| Gemcitabine   | Selleck Chemicals | S1149    | 1 μM                |
| Cisplatin     | Selleck Chemicals | S1166    | 200 μM              |
| Trastuzumab   | MedChemExpress    | HY-P9907 | 100 μg/ml           |
| Olaparib      | Selleck Chemicals | S1060    | 50 μM               |
| Vemurafenib   | Selleck Chemicals | S1267    | 25 μM               |
| Trametinib    | Selleck Chemicals | S2673    | 2.5 μM              |

*aThe maximum screening concentration of the drug used. 5-Fu, 5-fluorouracil.*