**Table S2. Reagents, instruments, tumor cell culture details**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Antibodies used in Western blotting/IHC/IF/ IP** | | | | |  |
| **Protein target** | | | **Catalog** | **Company** | **IDENTIFIER (RRID)** |
| CD99 | | | MA5-33126 | Invitrogen | RRID:AB\_2811942 |
| IGF1Rβ | | | 9750 | Cell signaling technology | RRID:AB\_10950969 |
| IRβ | | | 23413 | Cell signaling technology | NA |
| pY980 IGF1R | | | 4568 | Cell signaling technology | RRID:AB\_2122279 |
| pY1135/1136 IGF1R/IR | | | 3024 | Cell signaling technology | RRID:AB\_331253 |
| EphA2 | | | 6997 | Cell signaling technology | RRID:AB\_10827743 |
| pY772 EphA2 | | | 8244 | Cell signaling technology | RRID:AB\_10860415 |
| pS897 EphA2 | | | 6347 | Cell signaling technology | RRID:AB\_11220420 |
| AKT | | | 4691 | Cell signaling technology | RRID:AB\_915783 |
| pS473 AKT | | | 4060 | Cell signaling technology | RRID:AB\_2315049 |
| pT308 AKT | | | 4056 | Cell signaling technology | RRID:AB\_331163 |
| ERK1/2 | | | 4695 | Cell signaling technology | RRID:AB\_390779 |
| pERK1/2 | | | 4370 | Cell signaling technology | RRID:AB\_2315112 |
| PCNA | | | 600-97-1-1g | Proteintech | RRID:AB\_2236728 |
| ATR | | | 2790 | Cell signaling technology | RRID:AB\_2227860 |
| pS428 ATR | | | 2853 | Cell signaling technology | RRID:AB\_2290281 |
| pS345 CHK1 | | | 2341 | Cell signaling technology | RRID:AB\_330023 |
| CHK1 | | | 2360 | Cell signaling technology | RRID:AB\_2080320 |
| Gamma-H2AX (pS139) | | | 05-636 | Millipore | RRID:AB\_309864 |
| CL-CASP3 | | | 9664 | Cell signaling technology | RRID:AB\_2070042 |
| ki67 | | | MA5-14520 | Thermofisher Scientific | RRID:AB\_10979488 |
| RRM | | | 65939 | Cell signaling technology | RRID:AB\_2895029 |
| pS33-RPA | | | A300-246A-M | BETHYL, Fortis Life Sciences | RRID:AB\_2779098 |
| RPA | | | MA1-25889 | Thermofisher Scientific | RRID:AB\_2180684 |
| RAD21 | | | 4449 | Cell signaling technology | RRID:AB\_1904108 |
| Wee1 | | | 13084 | Cell signaling technology | RRID:AB\_2713924 |
| pCDK1 | | | 9111 | Cell signaling technology | RRID:AB\_331460 |
| CDK1 | | | 9116 | Cell signaling technology | RRID:AB\_2074795 |
| Anti-DNA-RNA hybrid (S9.6) antibody | | | ENH001 | Kerafast, Inc. | RRID:AB\_2687463 |
| Anti-phospho-tyrosine-HRP | | | HAM1676 | R&D System | RRID:AB\_357238 |
| Anti-Ubiquitn-HRP | | | 838705 | Biolegend | RRID:AB\_2801179 |
| Anti-Ubiquitin-PCNA | | | 13439S | Cell signaling technology | RRID:AB\_2798219 |
| Tubulin | | | T9026 | Sigma Aldrich | RRID:AB\_477593 |
| β-Actin (HRP) | | | A3854 | Sigma Aldrich | RRID:AB\_262011 |
| Goat-anti-mouse AF594 | | | A-11005 | Invitrogen | RRID:AB\_2534073 |
| Goat-anti-mouse AF488 | | | A-11029 | Invitrogen | RRID:AB\_2534088 |
| Donkey-anti-rabbit AF594 | | | A-21207 | Invitrogen | RRID:AB\_141637 |
| Donkey-anti-rabbit AF488 | | | A-21206 | Invitrogen | RRID:AB\_2535792 |
| Goat-anti-mouse-HRP | | | 1705047 | BioRad | RRID:AB\_11125753 |
| Goat-anti-rabbit-HRP | | | 1705046 | BioRad | RRID:AB\_11125757 |
| Rat anti-BrdU | | | ab6326 | Abcam | RRID:AB\_305426 |
| Mouse-anti-BrdU | | | 347580 | BD-Biosciences | RRID:AB\_10015219 |
| Anti-BrdU FITC antibody | | | 11-5071-42 | eBiosciences | RRID:AB\_11042627 |
| **Pharmacological agents used** | | | | |  |
| **Inhibitor name** | | | **Catalog** | **Company** | **IDENTIFIER (RRID)** |
| Linsitinib | | | HY-1019 | MedChemExpress (MCE) | NA |
| Adavosertib (AZD1775) | | | HY10993 | MedChemExpress (MCE) | NA |
| Picropodophyllin (PPP) | | | HY15494 | MedChemExpress (MCE) | NA |
| ZNL-02-096 | | | ZNL-02-096 | AOBIOUS | NA |
| Dansylcadaverine | | | HY-D1027 | MedChemExpress (MCE) | NA |
| **Reagents for qPCR, western blotting, IHC and cell culture** | | | | |  |
| **Reagent** | | | **Catalog** | **Company** | **IDENTIFIER (RRID)** |
| Pure Link RNA kit | | | 12183018A | Invitrogen | NA |
| PrimeScript RT reagent kit | | | RR037A | Takara | NA |
| Dynabead antibody coupling kit | | | 14311D | Invitrogen | NA |
| ECL reagent | | | WBKLS0500 | Merck-Millipore | NA |
| Human Phospho-RTK arrays | | | ARY001B | R&D System | NA |
| IdU | | | AC122350010 | Thermo Fisher Scientific | NA |
| CldU | | | C6891 | Sigma Aldrich | NA |
| WST-8 assay kit | | | CK04 | Dojindo Laboratory | NA |
| ABC kit | | | PK-6100 | Vector laboratories | NA |
| DAB | | | SK-4100 | Vector laboratories | NA |
| collagenase | | | 17018-029 | Gibco | NA |
| RPMI medium | | | 72400047 | Gibco | NA |
| DMEM | | | A1049001 | Gibco | NA |
| McCoy's | | | McCoy's | Gibco | NA |
| Hydrocortisone | | | H0888 | Sigma Aldrich | NA |
| ß-estradiol | | | E2758 | Sigma Aldrich | NA |
| Transferrin | | | T1428 | Sigma Aldrich | NA |
| MycoZapTM Plus-PR | | | VZA-2022 | Lonza | NA |
| A673 cells | | | CRL-1598 | ATCC | RRID:CVCL\_0080 |
| RD-EScells | | | HTB-166 | ATCC | RRID:CVCL\_2169 |
| SK-ES-1 cells | | | HTB-86 | ATCC | RRID:CVCL\_0627 |
| Click-iT | | | C10638 | Thermo Fisher | NA |
| **Pharmacological Agents** | | **Catalog** | | **Company** | **IDENTIFIER (RRID)** |
| Linsitinib | | HY-1019 | | MedChemExpress (MCE) | NA |
| Adavosertib (AZD1775) | | HY10993 | | MedChemExpress (MCE) | NA |
| Picropodophyllin (PPP) | | HY15494 | | MedChemExpress (MCE) | NA |
| Gemcitabine | | A8437 | | APExBIO Technology LLC | NA |
| **Instruments and Software** | | | | **Company** | **IDENTIFIER (RRID)** |
| QuantiStudio-3, real-time-PCR machine | | | | Applied biosystem | RRID:SCR\_018712 |
| ChemiDoc MP-Imaging System | | | | BioRad | RRID:SCR\_014210 |
| Nikon C-TAQ equipped with Andor Zyla VSC-02623 camera with NIS Elements AR V5.11.00 | | | | Nikon | RRID:SCR\_014329 |
| Zeiss LSM700 confocal microscopes | | | | Zeiss | RRID:SCR\_017377 |
| Evos FL Auto 2 inverted fluorescence microscope | | | | Invitrogen | NA |
| ImageJ | | | | NIH | RRID:SCR\_003070 |
| Image Lab Software | | | | BioRad | RRID:SCR\_014210 |
| Adobe Photoshop | | | | Adobe Photoshop | RRID:SCR\_014199 |
| Flow-Jo | | | | Flow-Jo | RRID:SCR\_008520 |
| Graphpad PRISM | | | | Graphpad PRISM | RRID:SCR\_002798 |
| **Tumor Cell Culture** | | | | **Protocol/Media** |  |
| PDX-derived cells | Tumor tissues were minced in antibiotic-supplemented RPMI, digested (0.05% collagenase), filtered, centrifuged and pellets suspended in RPMI + 5% FBS, 10 mM Hydrocortisone, 10 nM ß-estradiol, 0.01 mg/ml Transferrin, MycoZapTM Plus-PR. After incubation, tumor cell spheroids were isolated. Cells grew as monolayers on rat-tail collagen-coated dishes.  - | | | | |
| A673 (ATCC) | DMEM, 10% FBS | | | | |
| RD-ES (ATCC) | RPMI 1640, 10% FBS | | | | |
| SK-ES (ATCC) | McCoy's, 10% FBS | | | | |

\*NA (Not available)