|  |  |  |  |
| --- | --- | --- | --- |
| Antibodies used for Western blotting |  |  |  |
| Antibody | Dilution  | Catalog #  | Vendor |
| Phospho-PI3 Kinase p85 (Tyr458)/p55 (Tyr199) |  1:1000 | 4228 |  Cell Signaling |
| PI3 Kinase p101 |  1:1000 | 5569 |  Cell Signaling |
| Phospho-Akt (Ser473) |  1:1000 | 4060 |  Cell Signaling |
| AKT |  1:1000 | 9272 |  Cell Signaling |
| Phospho-p44/42 MAPK(Thr202/Tyr204) |  1:1000 | 4370 |  Cell Signaling |
| p44/42 MAPK |  1:1000 | 9102 |  Cell Signaling |
| Caspase 3 |  1:1000 | 19677-1-AP | Proteintech |
| Caspase 9/p35/p10 |  1:1000 | 10380-1-AP | Proteintech |
| Cleaved PARP (Asp214) |  1:1000 | 5625 |  Cell Signaling |
| PARP |  1:1000 | 13371-1-AP | Proteintech |
| Phospho-Histone H2A.X (Ser139) |  1:1000 | 9718 |  Cell Signaling |
| Rad51 |  1:1000 | ab133534 | Abcam |
| GAPDH |  1:1000 | 2118 |  Cell Signaling |
| β-Tubulin |  1:1000 | 2128 |  Cell Signaling |
|  |  |  |  |
|  |  |  |  |
| Antibody used for immunohistochemistry |  |  |  |
| Antibody  | Dilution  | Catalog #  | Vendor |
| Ki67 |  1:1000 | ab15580 | Abcam |
|  |  |  |  |
| Antibody used for immunofluorescence |  |  |  |
| Antibody  | Dilution  | Catalog #  | Vendor |
| Phospho-Histone H2A.X (Ser139) |  1:500 | 9718 |  Cell Signaling |

**Table S1**