**Supplementary Tables**

**Table S1. Oligonucleotides for constructing CRISPR/Cas9 sgRNA vectors**

| | Oligonucleotide | Sequence |
|---|---|---|
| CRISPR/Cas9-1 miR-371/372/3733 cluster 5'sgRNA promoter 3'sgRNA | Sense | CACCGCAATGATACGTCCACACCTC |
| | Antisense | AAACGAGGTGTGGACGTATCATTGC |
| CRISPR/Cas9-2 miR-371/372/373 cluster 3'sgRNA | Sense | CACCGAGTTCCCGGGCTTCTCTGCG |
| | Antisense | AAACCGCAGAGAAGCCCGGGAACTC |
| CRISPR/Cas9-3 miR-371/372/373 promoter 5'sgRNA | Sense | CACCGTGAGCACGTACTCCCGCAGC |
| | Antisense | AAACGCTGCGGGAGTACGTGCTCAC |

**Table S2. Primers used for PCR reaction to detect deletion**

| | Primer | Sequence |
|---|---|---|
| miR-371/372/373 cluster deletion detection | Forward 2 (F2) | TGAGTGGATGACTGGTGGAA |
| | Forward 3 (F3) | CTGTGACCAAGGGGCTGTAT |
| | Reverse 3 (R3) | CTGTGGCATTGTCCGTGTAG |
| miR-371/372/373 promoter deletion detection | Forward 1 (F1) | TCATCCAGGTGGTTCACAAA |
| | Reverse 1 (R1) | CACACCACTGCACTCCATTC |
| | Reverse 2 (R2) | AGGAAGGAACACGTGTGAGG |

**Table S3. Oligonucleotides for constructing CRISPR/dCas9 SAM vectors**

| | Oligonucleotide | Sequence |
|---|---|---|
| CRISPR-dCas9 SAM1 | Sense | CACCGTTAATCCTATCAAAGTTGAG |
| | Antisense | AAACCTCAACTTTGATAGGATTAAC |
| CRISPR-dCas9 SAM2 | Sense | CACCGACCAGGGGGAATGAGAGGG |
| | Antisense | AAACCCCTCTCATTCCCCCTGGTC |
| CRISPR-dCas9 SAM3 | Sense | CACCGGAGACCAGGGGGAATGAGA |
| | Antisense | AAACTCTCATTCCCCCTGGTCTCC |
| CRISPR-dCas9 SAM4 | Sense | CACCGGCTTGGGGCGGAGACCAGG |
| | Antisense | AAACCCTGGTCTCCGCCCCAAGCC |
| CRISPR-dCas9 SAM5 | Sense | CACCGTGGCTTGGGGCGGAGACCA |
| | Antisense | AAACTGGTCTCCGCCCCAAGCCAC |
| CRISPR-dCas9 SAM6 | Sense | CACCGGTGGCTTGGGGCGGAGACC |
| | Antisense | AAACGGTCTCCGCCCCAAGCCACC |

**Table S4. TaqMan primers used in this study**

| Gene | Cat No |
|---|---|
| has-*miR-371* | 000559 |
| has-*miR-372* | 000560 |
| has-*miR-373* | 000561 |
| *RNU6B* | 001093 |
| *Bad* | Hs00188930_m1 |
| *Bax* | Hs00180269_m1 |
| *MYADM* | Hs01881097_s1 |
| *PRKCG* | Hs00177010_m1 |
| *GAPDH* | Hs02786624_g1 |

**Table S5. Primary antibodies used in this study**

| Protein | Origin | Molecular weight (kDa) | Supplier |
|---|---|---|---|
| DKK1 | Rabbit | 38 | Abcam |
| LATS2 | Rabbit | 120 | Bethyl |
| p62 | Mouse | 62 | Santa Cruz |
| SPOP | Rabbit | 42 | Proteintech |
| YOD1 | Rabbit | 38 | Abcam |
| ZBTB7A | Hamster | 72 | Santa Cruz Biotechnology |
| AKT | Mouse | 60 | Santa Cruz Biotechnology |
| pAKT | Rabbit | 60 | Cell signaling |
| ERK | Rabbit | 42, 44 | Cell signaling |
| pERK | Rabbit | 42, 44 | Cell signaling |
| FAK | Rabbit | 125 | Santa Cruz Biotechnology |
| pFAK | Goat | 125 | Santa Cruz Biotechnology |
| Src | Mouse | 60 | Cell signaling |
| pSrc | Rabbit | 60 | Biosource |
| H-Ras | Mouse | 21 | Santa Cruz Biotechnology |
| K-Ras | Mouse | 21 | Santa Cruz Biotechnology |
| Pan-Ras | Mouse | 21 | Santa Cruz Biotechnology |
| NRF2 | Rabbit | 68 | Sigma-Aldrich |
| Rho A | Mouse | 24 | Santa Cruz Biotechnology |
| Active β-catenin | Mouse | 92 | Merck Millipore |
| GAPDH | Mouse | 37 | Santa Cruz Biotechnology |

## Supplementary figures

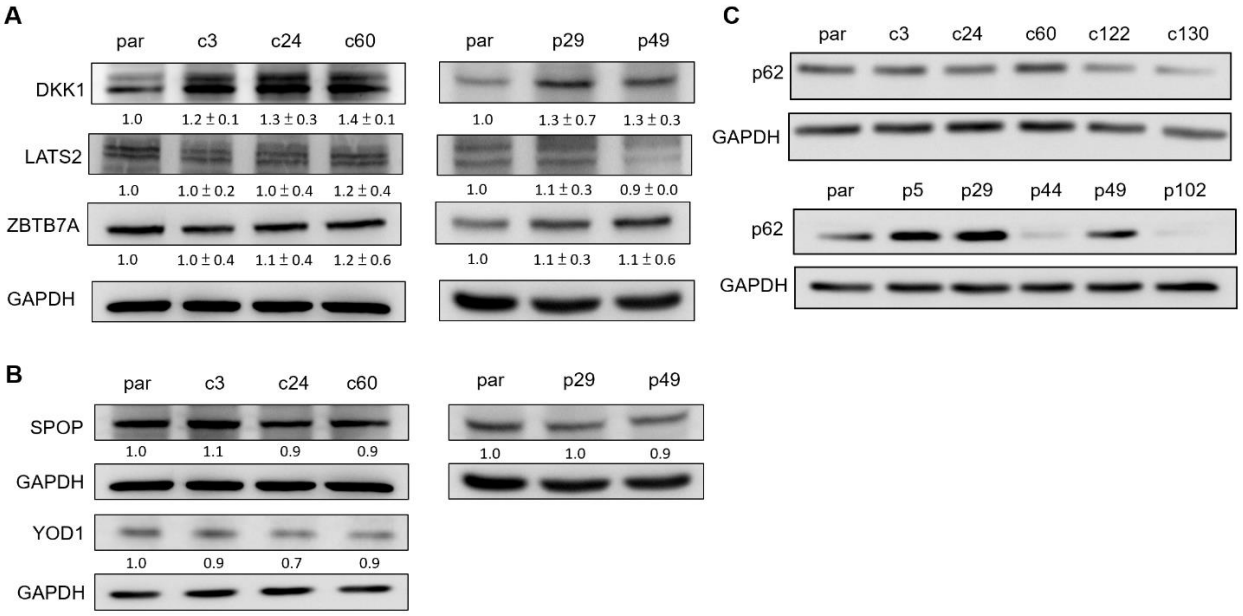


**Figure S1.** Western blot analysis of protein expression in parental cells and the deletion subclones. (A) DKK1, LAST2 and ZBTB7A. Data shown are means ± SE from at least triplicate analysis. (B) SPOP and YOD1. Solitary analysis. (C) p62. Solitary analysis. Since the expression pattern of p62 is irregular across the subclones, quantification was not performed. par, parental cell.

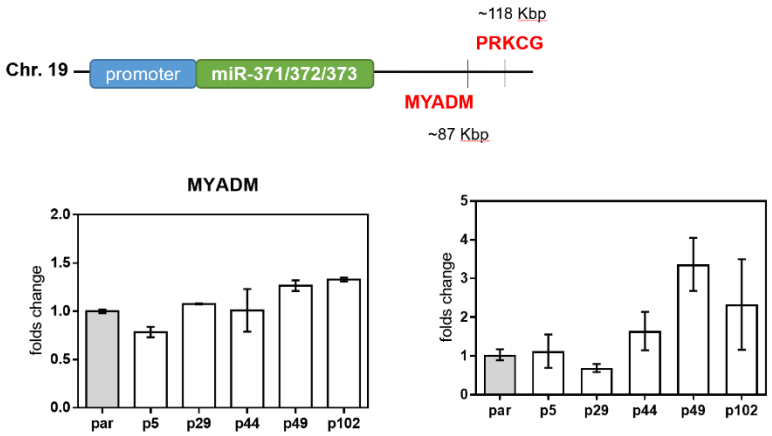


**Figure S2.** qPCR analysis of *MYADM* and *PRKCG* mRNA expression. Upper, diagram depicts the location of these genes relative to the *miR-371/372/373* promoter on chromosome 19. Lower, quantification of the parental cell and the *miR-371/372/373* promoter deletion subclones. par, parental cell.

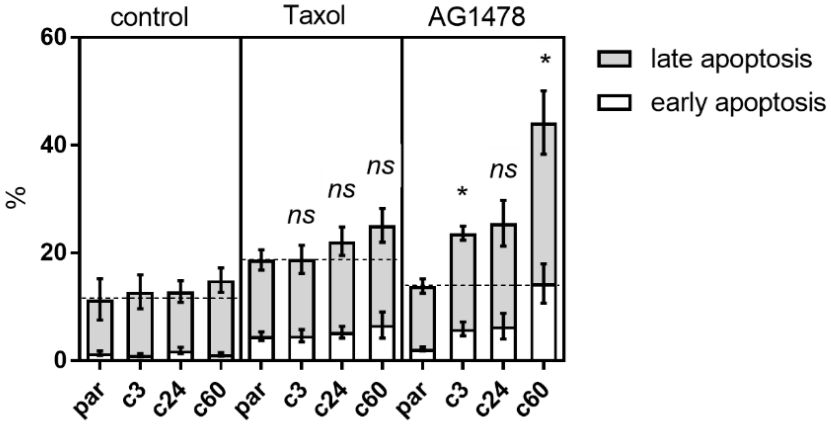


**Figure S3.** Quantification of the apoptosis cell fraction of the parental cells and the *miR-371/372/373* cluster deletion subclones after treatment ith either 35 nM taxol or 30 µM AG1478 for 48 h. par, parental cells.

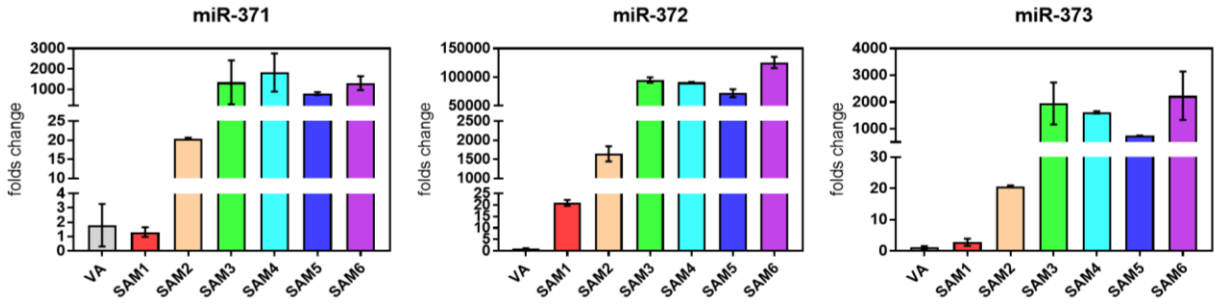


**Figure S4.** qPCR analysis of *miR-371/372/373* expression in cells after transfection with the SAM1 – SAM6 constructs compared to vector alone (VA) for 24 h.

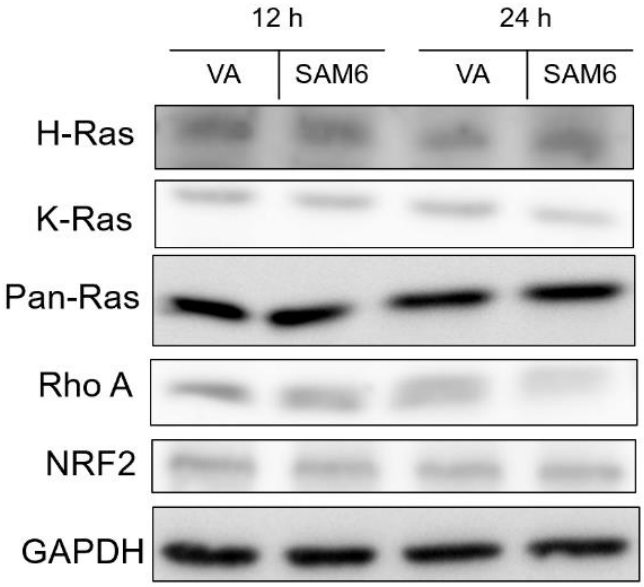


**Figure S5.** Representative Western blot analysis to detect the H-Ras, K-Ras, Pan-Ras, Rho A and NRF2 protein expression in cells after transfection of the SAM6 constructs or vector alone (VA) for 12 h and 24 h.