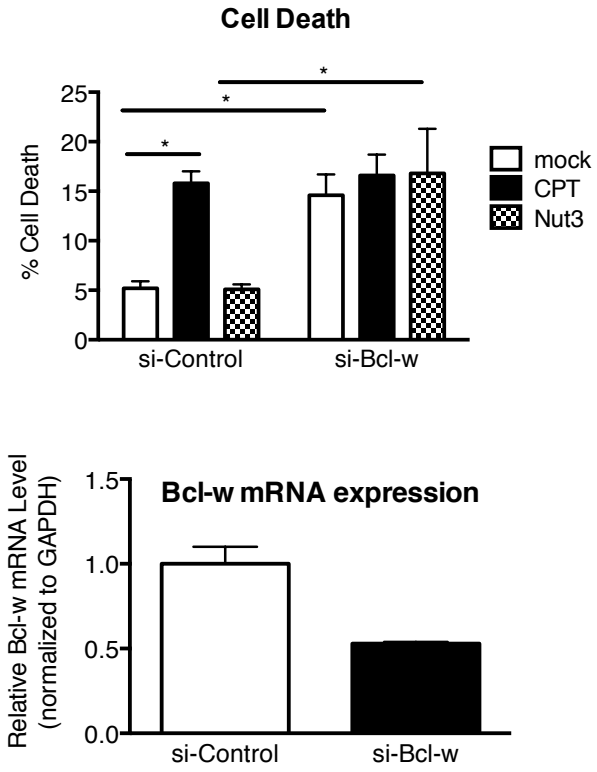

Fig. S1 Downregulation of *Bcl-w* leads to cell death after Nut3 treatment similarly to CPT. p53(+) cells were transfected with siRNA against Bcl-w (si-Bcl-w) or control siRNA (si-Control), followed by DMSO, CPT or Nut3 treatment for 16 hrs. After DMSO or CPT treatment for 16 hrs, cells were subjected cell death assay by Trypan blue staining, followed by counting of live cells. Cell death was assessed by trypan blue uptake in a minimum of 200 cells in triplicates and the result is shown as % of dead cells (top panel). qRT-PCR analysis of Bcl-w normalized to GAPDH is shown (bottom panel). *P<0.05; error bars represent standard deviation (s.d.). n=3.

Supple. Fig. S2 Chang et al.

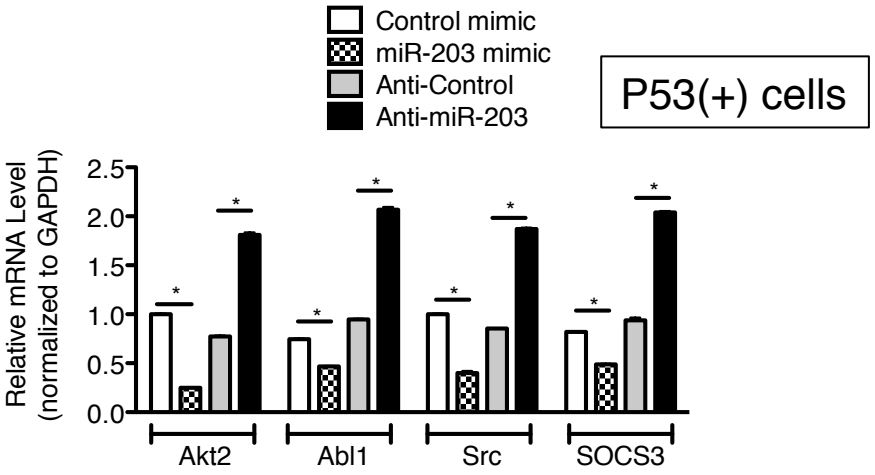

Fig. S2 All four validated miR-203 targets are regulated upon transfection of miR-203 mimic or anti-miR-203 in HCT116 p53(+) cells. p53(+) cells were transfected with 20μM control, miR-203 mimic, or anti-miR-203, followed by RT-qPCR analysis of *Akt2, Abl1, Src,* and *SOCS3*. **P*<0.05; error bars represent standard deviation (s.d.). *n*=3.

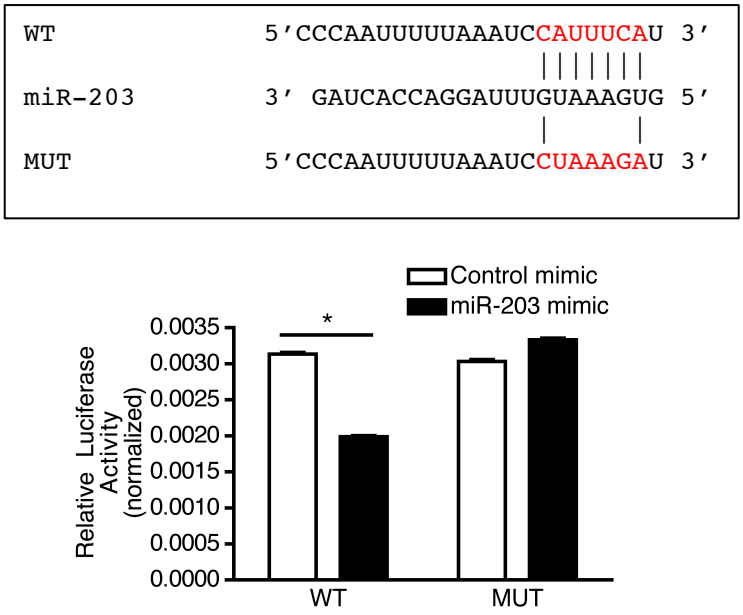

Fig. S3 The 3'UTR of *Bcl-w* mRNA contains MRE sequence for miR-203. miR-203 MRE sequence (shown in red), which is evolutionarily conserved. HCT116 p53(+) cells were transfected with 20μM control mimic, miR-203 mimic, or anti-miR-203, followed by qRT-PCR analysis of *Bcl-w*. miR-203 levels were measured in the same samples. **P*<0.05; error bars represent standard deviation (s.d.). *N*=4.

Supple. Fig. S4 Chang et al.

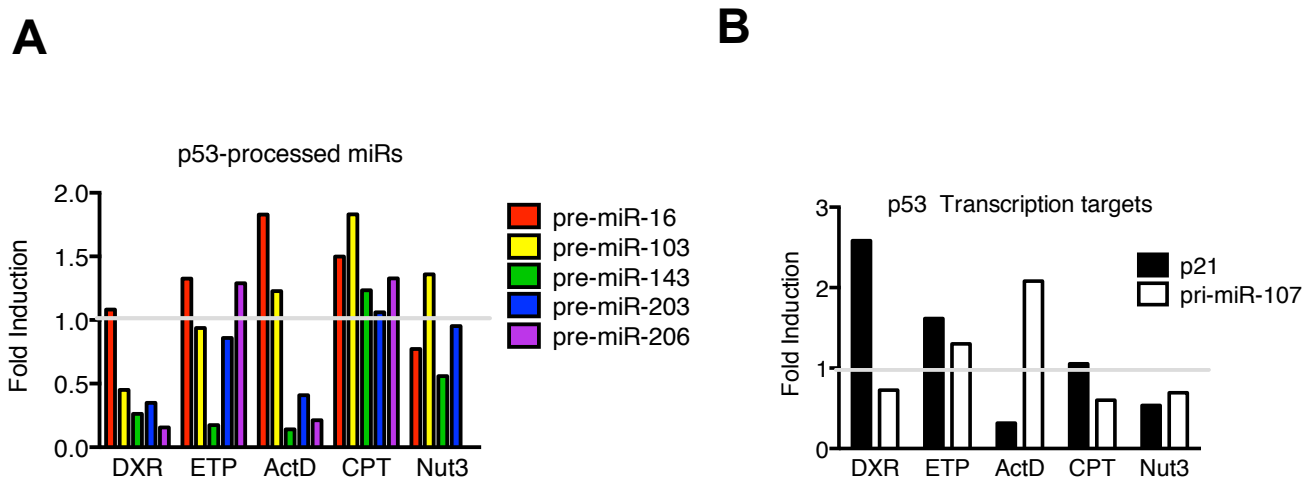

Fig. S4 Induction of p53-processed miRs upon treatment with DNA damage agent is p53 dependent. A. HCT116 cells homozygously deleted in p53 gene [p53(-)] were treated with with various stimuli (DXR, ETP, ActD, CPT or Nut3) for 16 hr. RT-qPCR analysis of the level of pre-miRNA of p53-processed miRs (miR-16, -103, -143, -203, and -206) normalized to GAPDH. Fold changes upon treatment with various stimuli over mock treatment are shown. **B.** RT-qPCR analysis of the level of primary transcripts of p53 transcription target genes (p21 and miR-107) normalized to GAPDH. Fold changes upon treatment with various stimuli over mock treatment are shown.

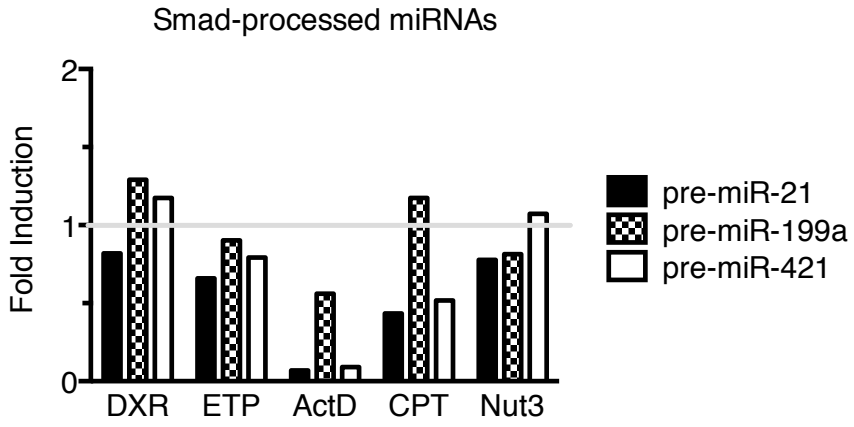

Fig. S5 DNA damage stimuli in HCT116 cells do not induce Smad-dependent miRs HCT116 cells carrying the wild type p53 gene [p53(+)] were treated with with various stimuli (DXR, ETP, ActD, CPT or Nut3) for 16 hr. RT-qPCR analysis of the level of pre-miRNA of Smad-dependent miRs (miR-21, -199a and -421) normalized to GAPDH. Fold changes upon treatment with various stimuli over mock treatment are shown.

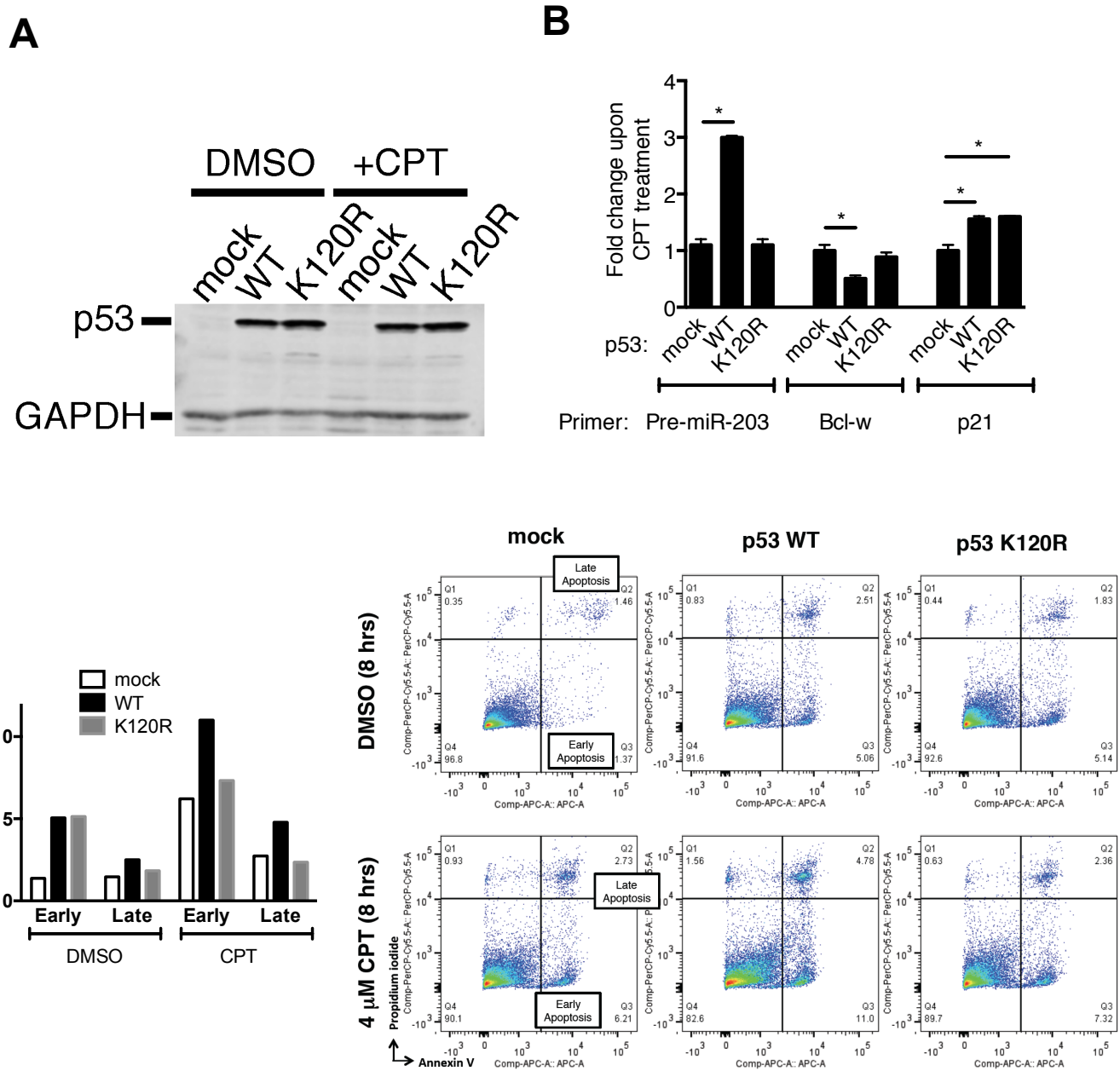

Fig. S6 Induction of p53-processed miRs upon treatment with DNA damage agent is p53 dependent in H1299 cells. A. Immunoblot analysis of total p53 protein level in cell lysates from H1299 human lung carcinoma cells transfected with wild type or K120R mutant of p53 are shown. GAPDH is included as a loading control. **B.** RT-qPCR analysis of the level of pre-miR-203, miR-203 target; Bcl-w, and transcriptional target of p53 (p21) normalized to GAPDH. Fold changes upon CPT treatment over mock (DMSO) treatment are shown.*p<0.05 **C.** H1299 cells transfected with vector (mock), WT or K120R mutant were treated with DMSO or 4 μM CPT for 8hr, followed by Annexin V (AnnexV) and propidium iodide (PI) staining and FACS sorting. AnnexV(high)/PI(low) cells represent "early stage" apoptotic cells. AnnexV(high)/PI(high) cells represent "late stage" apoptotic cells. Number of cells in early or late apoptosis are shown on the left panel.

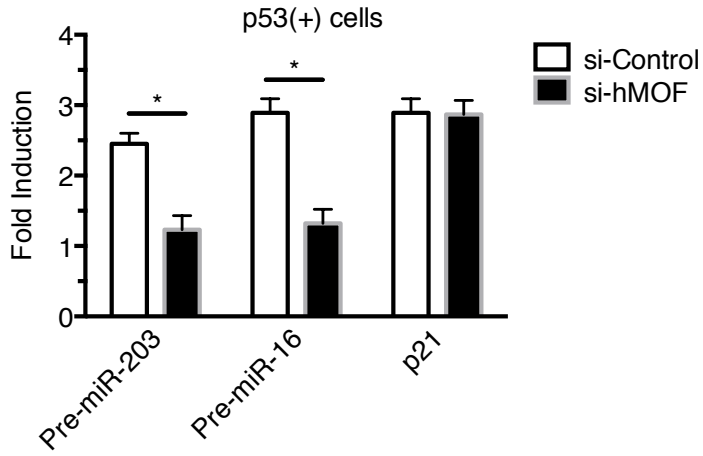

Fig. S7 Knock down of hMOF inhibits p53-dependent miRNA processing and induction of apoptosis upon CPT treatment. p53(+) cells were transfected with siRNA against hMOF (si-hMOF) or control siRNA (si-Control), followed by DMSO or CPT treatment for 16 hrs. qRT-PCR analysis of pre-miR-203, pre-miR-16 and p21 mRNA (control) normalized to GAPDH is shown. Results are shown as the fold induction of pre-miRNAs or p21 upon CPT treatment as compared to DMSO treatment. *P<0.05; error bars represent standard deviation (s.d.). n=4.

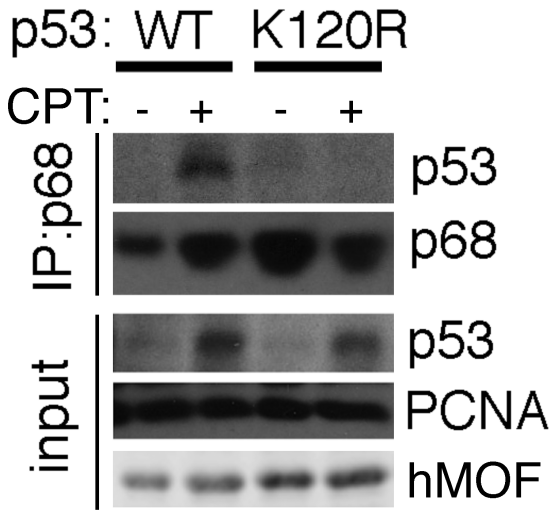

Fig. S8 p53-K120R is unable to interact with p68 upon CPT stimulation. p53(-) cells were transfected with the expression vector carrying the wild type p53 (WT) or the K120 acetylation mimic (K120Q) mutant, followed by CPT stimulation for 8 hr. Nuclear extracts were subjected to immunoprecipitation with anti-p68 antibody (IP:p68), followed by immunoblotting with anti-p53 or anti-p68 antibodies. Nuclear extracts (input) were subjected to immunoblotting with anti-p53, anti-proliferating cell nuclear antigen (PCNA), or anti-hMOF antibody (loading control).