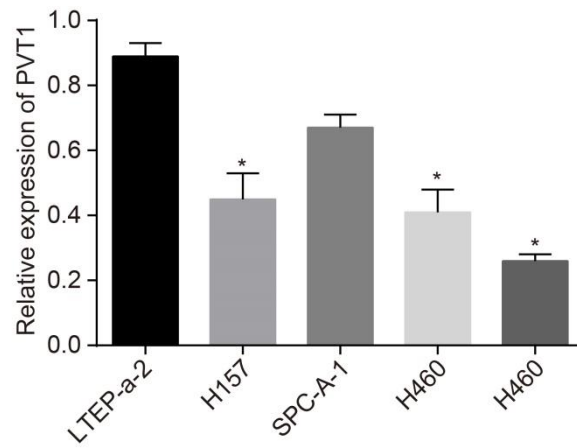


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**Supplemental Information**

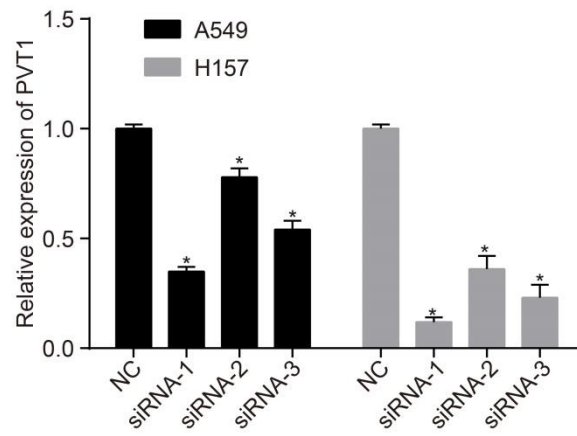
**Long Non-coding RNA PVT1 Competitively Binds  
MicroRNA-424-5p to Regulate CARM1 in  
Radiosensitivity of Non-Small-Cell Lung Cancer**

**Dong Wang and Yi Hu**



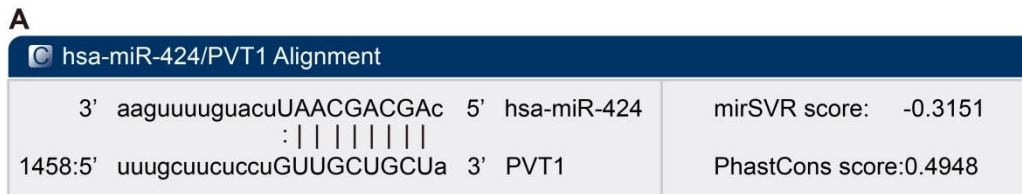
**Supplementary Figure 1.** Relative expression of PVT1 in five different NSCLC cell lines, and A549 and H157 cells were selected for the following experiment

Note: \*,  $P < 0.05$ , compared with A549 and H157 cell lines. Data are means  $\pm$  standard deviation from three independent experiments,  $P$  calculated by one way ANOVA; PVT1, plasmacytoma variant translocation 1; NSCLC, non-small cell lung cancer.

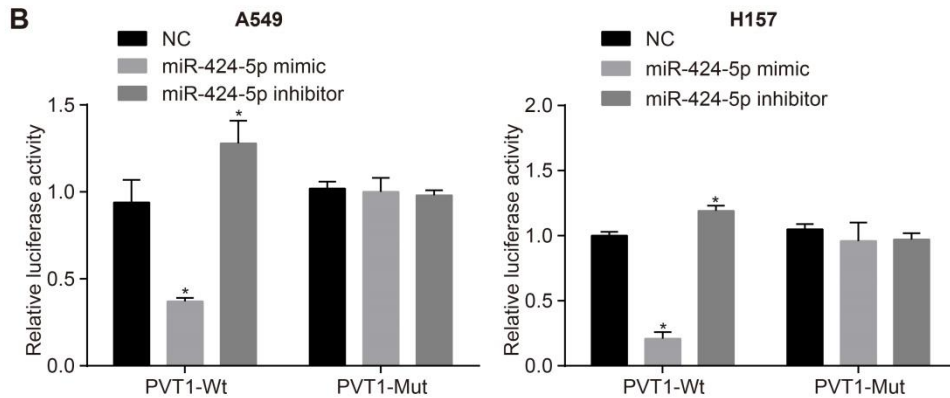


**Supplementary Figure 2.** The siRNA-1 was selected for the following experiments

Note: \*,  $P < 0.05$ , compared with the NC group; Data are means  $\pm$  standard deviation from three independent experiments,  $P$  calculated by one way ANOVA; PVT1, plasmacytoma variant translocation 1.

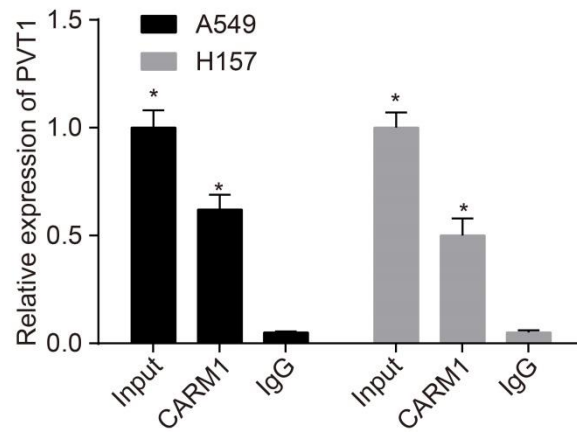


Mouseover a miRNA mature name to see the miRNA/PVT1 alignment.



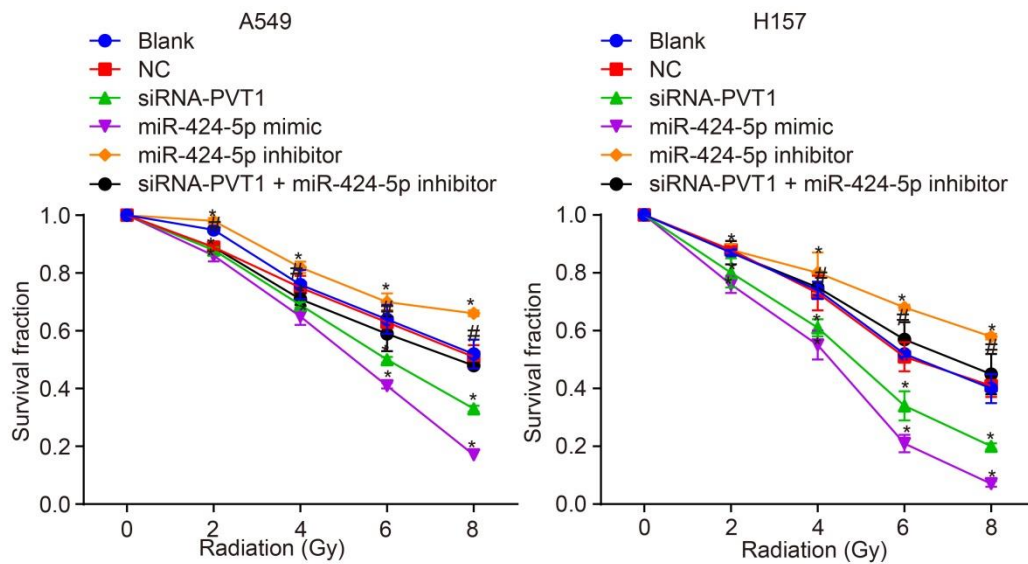
**Supplementary Figure 3. PVT1 is verified as the target gene of miR-424-5p**

Note: A, combined site of miR-424-5p and PVT1 3' UTR; B, dual luciferase reporter assay of gene activity; \*,  $P < 0.05$ , compared with the NC group; Data are means  $\pm$  standard deviation from three independent experiments,  $P$  calculated by one way ANOVA; miR-424-5p, mircoRNA-424-5p; PVT1, plasmacytoma variant translocation 1; 3' UTR, 3' Untranslated Regions.



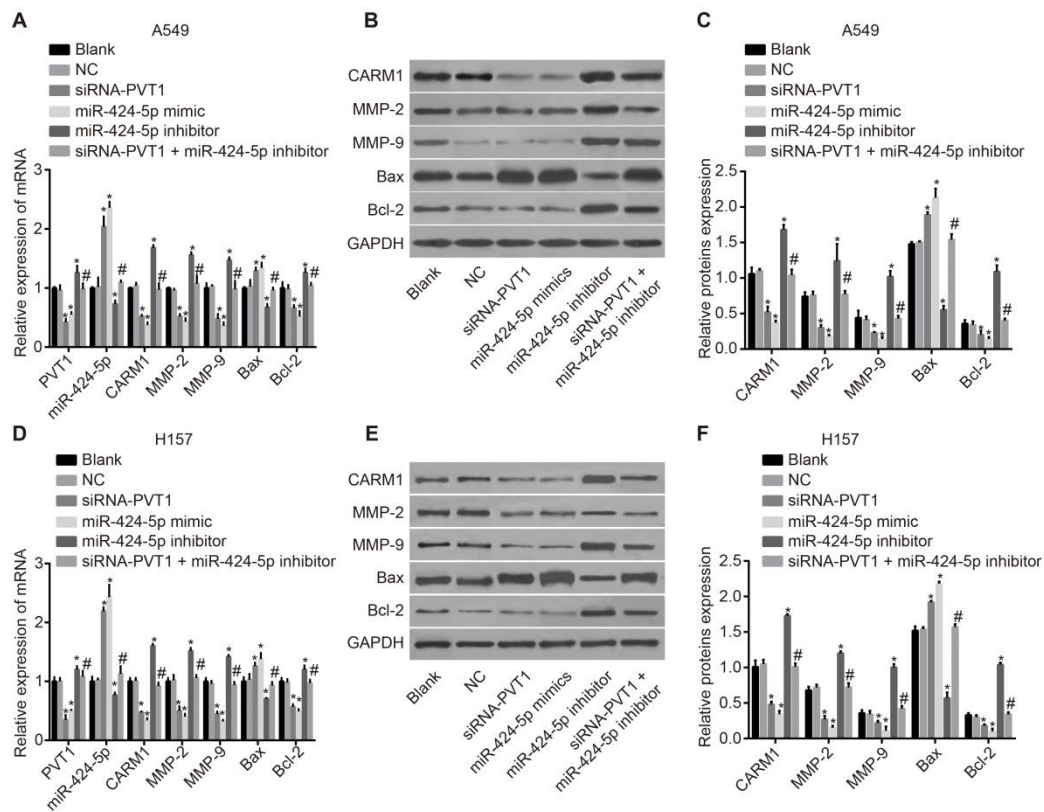
**Supplementary Figure 4.** The interaction of PVT1 and CARM1

Note: \*,  $P < 0.05$ , compared with the IgG NC group. Data are means  $\pm$  standard deviation from three independent experiments,  $P$  calculated by one way ANOVA; PVT1, plasmacytoma variant translocation 1; CARM1, co-activator associated arginine methyltransferase 1.



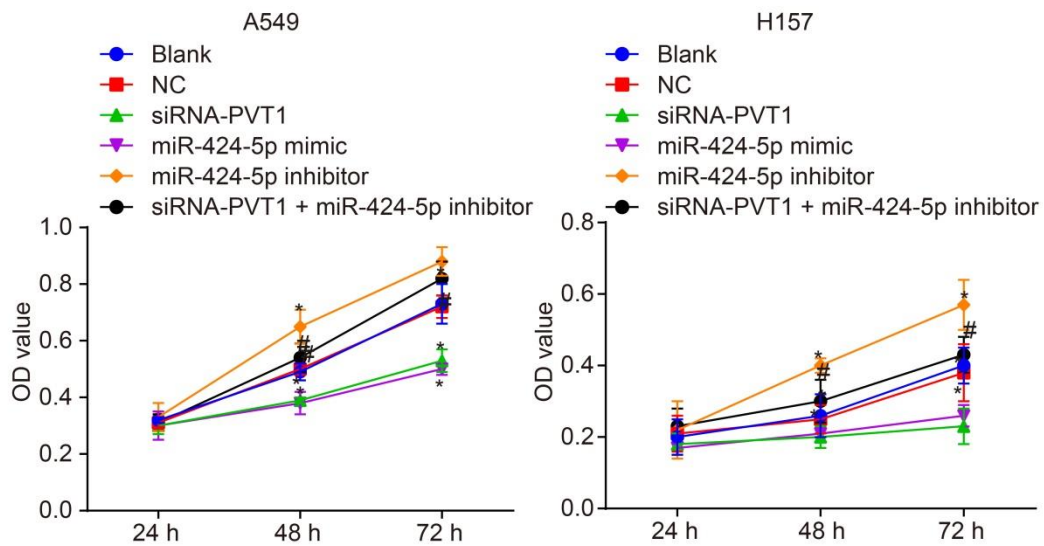
**Supplementary Figure 5.** Silencing of PVT1 or overexpression of miR-424-5p can increase the sensitivity of cell radiation to radiation

Note: \*,  $P < 0.05$ , compared with the blank and NC groups; #,  $P < 0.05$ , compared with the siRNA-PVT1 group; Data are means  $\pm$  standard deviation from three independent experiments,  $P$  calculated repeated measurement of analysis of variance; PVT1, plasmacytoma variant translocation 1; NC, negative control.



**Supplementary Figure 6.** siRNA-PVT1 or overexpressed miR-424-5p suppressed expression of CARM1 and some other factors related to tumor progression and cell apoptosis

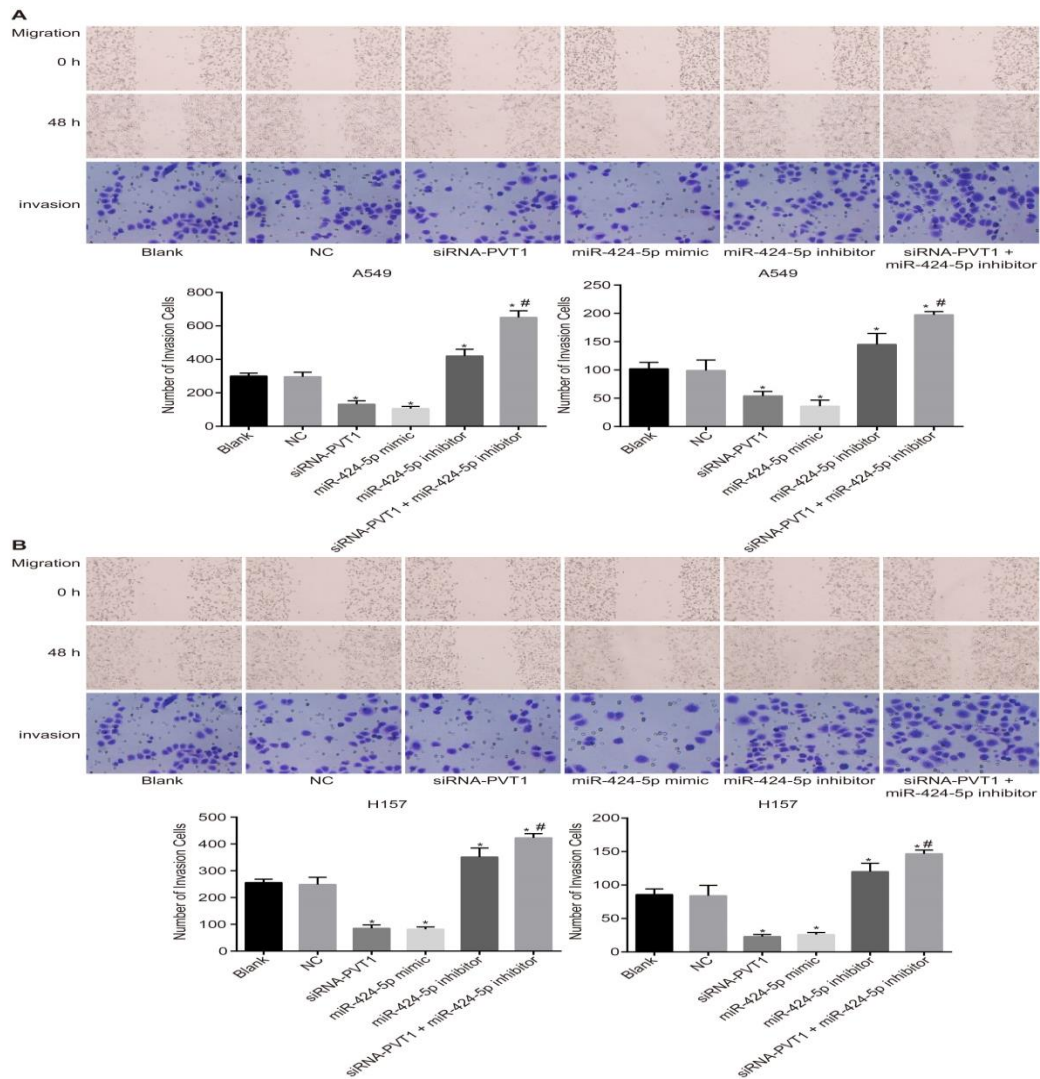
Note: A & D, miR-424-5p expression and mRNA expression of PVT1, CARM1, MMP-2, MMP-9, Bcl-2 and Bax in cells; B & E, Western blot analysis; C & F, protein expression of PVT1, CARM1, MMP-2, MMP-9, Bax and Bcl-2 in cells; \*,  $P < 0.05$ , compared with the blank and NC groups; #,  $P < 0.05$ , compared with the siRNA-PVT1 group; Data are means  $\pm$  standard deviation from three independent experiments,  $P$  calculated by one way ANOVA; miR-424-5p, microRNA-424-5p; CARM1, co-activator associated arginine methyltransferase 1; MMP-2, matrix metalloproteinase-2; MMP-9, matrix metalloproteinase; Bcl-2, B cell lymphoma 2; Bax, Bcl2-associated X protein; PVT1, plasmacytoma variant translocation 1; NC, negative control.



**Supplementary Figure 7.** NSCLC cell proliferation was inhibited after transfection of overexpressed miR-424-5p

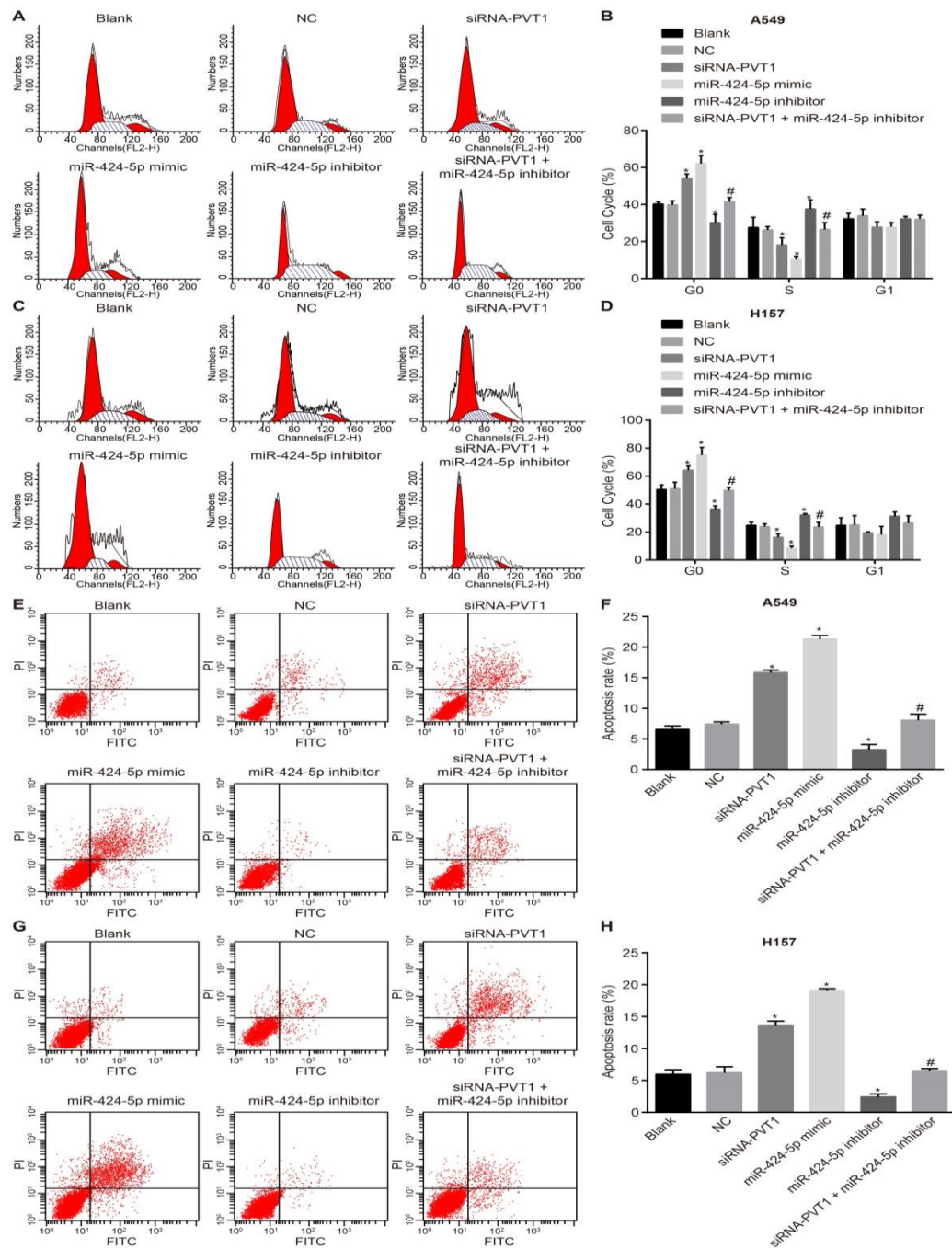
Note: \*,  $P < 0.05$ , compared with the blank and NC groups; #,  $P < 0.05$ , compared with the siRNA-PVT1 group; Data are means  $\pm$  standard deviation from three independent experiments,  $P$  calculated repeated measurement of analysis of variance; PVT1, plasmacytoma variant translocation 1; miR-424-5p, microRNA-424-5p.





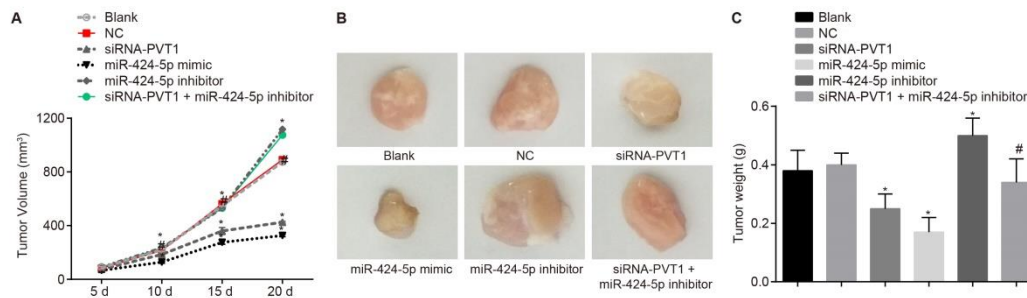
**Supplementary Figure 8.** NSCLC cell migration and invasion suppressed by siRNA-PVT1 or overexpressed miR-424-5p

Note: A, cell migration and invasion of A549 cell lines; B, cell migration and invasion of H157 cell lines; \*,  $P < 0.05$ , compared with the blank and NC groups; #,  $P < 0.05$ , compared with the siRNA-PVT1 group; Data are means  $\pm$  standard deviation from three independent experiments,  $P$  calculated by one way ANOVA; PVT1, plasmacytoma variant translocation 1; miR-424-5p, microRNA-424-5p.



**Supplementary Figure 9.** Changes of cell cycle distribution and apoptosis after transfection in each group

Note: A, cell cycle of A549 cell line; B, apoptosis of A549 cell line; C, cell cycle of H157 cell line; D, apoptosis of H157 cell line; \*,  $P < 0.05$ , compared with the blank and NC groups; #,  $P < 0.05$ , compared with the siRNA-PVT1 group. Data are means  $\pm$  standard deviation from three independent experiments,  $P$  (cell apoptosis) calculated by one way ANOVA;  $P$  (cell cycle) calculated repeated measurement of analysis of variance.



**Supplementary Figure 10.** Tumor growth was inhibited in A549 cell lines by siRNA-PVT1 or overexpressed miR-424-5p

Note: A, tumor growth graph; B, tumor size at the 20<sup>th</sup> day after radiation; C, tumor weight at the 20<sup>th</sup> day after radiation; \*,  $P < 0.05$ , compared with the blank and NC groups; #,  $P < 0.05$ , compared with the siRNA-PVT1 group; Data are means  $\pm$  standard deviation from three independent experiments,  $P$  (tumor weight) calculated by one way ANOVA;  $P$  (tumor volume) calculated repeated measurement of analysis of variance;  $n = 6$  per group. PVT1, plasmacytoma variant translocation 1; miR-424-5p, mircoRNA-424-5p