

## Supplementary Table S1

	A549, X-rays				A549, $\alpha$ -particles				A549, $^{56}\text{Fe}$				HCT116, X-rays				HCT116, $\alpha$ -particles		
untr	Dose	Average	StDev	untr	Dose	Average	StDev	untr	Dose	Average	StDev	untr	Dose	Average	StDev	untr	Dose	Average	StDev
	0	100	0		0	100	0		0	100	0		0	100	0		0	100	0
	1	83.80571	2.144201		1	19.7628	0.322853		1	27.56909	0		1	66.99323	5.559288		1	22.97645	2.167690
	2	52.33372	6.466724		2	6.449479	2.936311		2	6.665007	0		2	30.59344	8.715656		2	5.893734	2.545548
	4	23.29663	4.976602		4				4				4	8.924652	1.152503		4		
	A549, X-rays				A549, $\alpha$ -particles				A549, $^{56}\text{Fe}$				HCT116, X-rays				HCT116, $\alpha$ -particles		
ATMi	Dose	Average	StDev	ATMi	Dose	Average	StDev	ATMi	Dose	Average	StDev	ATMi	Dose	Average	StDev	ATMi	Dose	Average	StDev
	0	100	0		0	100	0		0	100	0		0	100	0		0	100	0
	1	57.2896	3.455962		1	18.05698	3.705604		1	34.27656	0		1	32.23651	4.340011		1	19.74808	1.418262
	2	31.24313	7.74396		2	4.94844	2.293736		2	5.051754	0		2	11.64852	1.104801		2	7.203752	0.573682
	4	12.12666	0.14793		4				4				4	2.669719	1.200524		4		
	A549, X-rays				A549, $\alpha$ -particles				A549, $^{56}\text{Fe}$				HCT116, X-rays				HCT116, $\alpha$ -particles		
ATRi	Dose	Average	StDev	ATRi	Dose	Average	StDev	ATRi	Dose	Average	StDev	ATRi	Dose	Average	StDev	ATRi	Dose	Average	StDev
	0	100	0		0	100	0		0	100	0		0	100	0		0	100	0
	1	58.42846	10.23177		1	21.02131	5.562599		1	23.15604	0		1	10.14128	1.496318		1	17.58472	5.039241
	2	27.64809	2.732089		2	5.917196	2.763893		2	5.35318	0		2	2.633585	0.845743		2	4.773974	2.441065
	4	13.77974	2.303963		4				4				4				4		
	A549-ATM-, X-rays				A549-ATM-, $\alpha$ -particles														
untr	Dose	Average	StDev	untr	Dose	Average	StDev												
	0	100	0		0	100	0												
	1	27.7046	3.765331		1	21.84895	1.226778												
	2	12.67171	1.44016		2	10.65420	1.064711												
	4				4														

**Supplementary Table S1.** Survival, (%) of A549, HCT116 and A549-ATM<sup>-</sup> cells exposed to different radiation modalities in the presence or not of ATMi or ATRi.

Data represent averages and standard deviations from three independent experiments. Data for A549 cells, exposed to  $^{56}\text{Fe}$  is generated from a single experiment. Values included in the Supplementary Table S1 were used to plot the graphs for survival experiments, presented in Figure 1, Figure 4b and Figures 5a, b.