

**Supplementary Table S2**

LET-dependency of the efficacy of apoptosis induction by carbon-ion beam irradiation in p53-mutant cancer cells.

Efficient apoptosis induction*	LET (keV/ $\mu$ m)	Dose (Gy)	Cell line	Endpoint	References
Yes	184	3, 5	SQ20B	sub-G1 fraction	12
Yes	100	1	SAS	DNA fragmentation etc.	15
Yes	100, 70	2	Ca9-22	PARP and caspase-3 cleavage	13
Yes	70	~3 (D30 <sup>†</sup> )	H1299	Hoechst 33342 staining	14
No	70, 30	1	SAS	DNA fragmentation etc.	15
No	33.6	3, 5	SQ20B	sub-G1 fraction	12
No	30, 13	2	Ca9-22	PARP and caspase-3 cleavage	13

\*"Yes" indicates that carbon-ion beam irradiation was a better inducer of apoptosis than X-ray irradiation at the iso-survival dose. <sup>†</sup>D30, the dose at which 30% of cells survived.