

**Table S2.** Radiosensitivity parameters describing survival advantage of isogenic head and neck SCC cells with different radiosensitivity.

Cells	SF2 <sup>1</sup>	ED <sub>50</sub> <sup>2</sup> (DMF <sup>3</sup> )	D <sub>10</sub> <sup>4</sup> (DMF)	α <sup>5</sup>	β <sup>6</sup>	α/β <sup>7</sup>
FaDu	0.42 ± 0.02	1.60 ± 0.11 (/)	4.15 ± 0.13 (/)	0.34 ± 0.04	0.05 ± 0.004	7.8 ± 1.2
FaDu-R1	0.59 ± 0.03*	2.28 ± 0.10 (1.4)	4.92 ± 0.16 (1.2)	0.13 ± 0.05*	0.07 ± 0.01	2.6 ± 1.5
FaDu-R2	0.60 ± 0.04*	2.44 ± 0.15* (1.5)	4.99 ± 0.24 (1.2)	0.13 ± 0.03*	0.06 ± 0.008	2.1 ± 0.4
FaDu-RR	0.67 ± 0.02**	2.57 ± 0.09** (1.6)	5.34 ± 0.11** (1.3)	0.06 ± 0.01**	0.07 ± 0.003	0.8 ± 0.2**
2A3	0.38 ± 0.09	1.17 ± 0.18‡ (0.7)	4.07 ± 0.35 (1.0)	0.51 ± 0.10‡	0.05 ± 0.02	20.3 ± 7.8‡

<sup>1</sup> SF2 – surviving fraction at 2 Gy; <sup>2</sup> ED<sub>50</sub> – effective dose (Gy) killing 50% of the cells; <sup>3</sup> DMF – dose-modifying factor; <sup>4</sup> D<sub>10</sub> – dose (Gy) required to kill 90% of the cells; <sup>5</sup> α – linear coefficient (Gy<sup>-1</sup>) from the LQ model; <sup>6</sup> β – quadratic coefficient (Gy<sup>-2</sup>) from the linear-quadratic model; <sup>7</sup> α/β – dose (Gy) at which linear contribution to damage equals the quadratic contribution; values are mean ± SEM from at least three independent experiments; \* indicates significant difference compared to FaDu cells; \*\* indicates significant difference compared to FaDu and 2A3 cells; ‡ indicates significant difference compared to FaDu and FaDu-RR cells (P < 0.05)