Supplementary Information

Destruction of tumor mass by gadolinium-loaded nanoparticles irradiated with monochromatic X-rays: Implications for the Auger therapy

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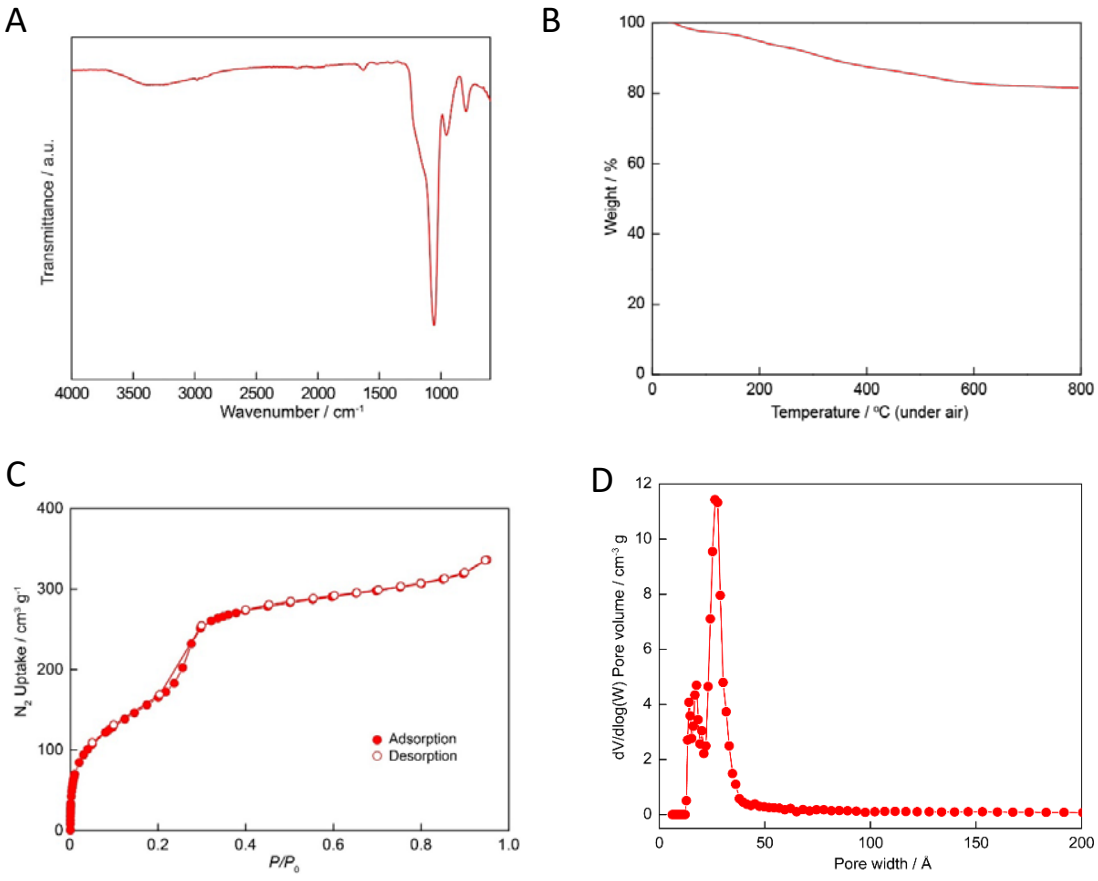
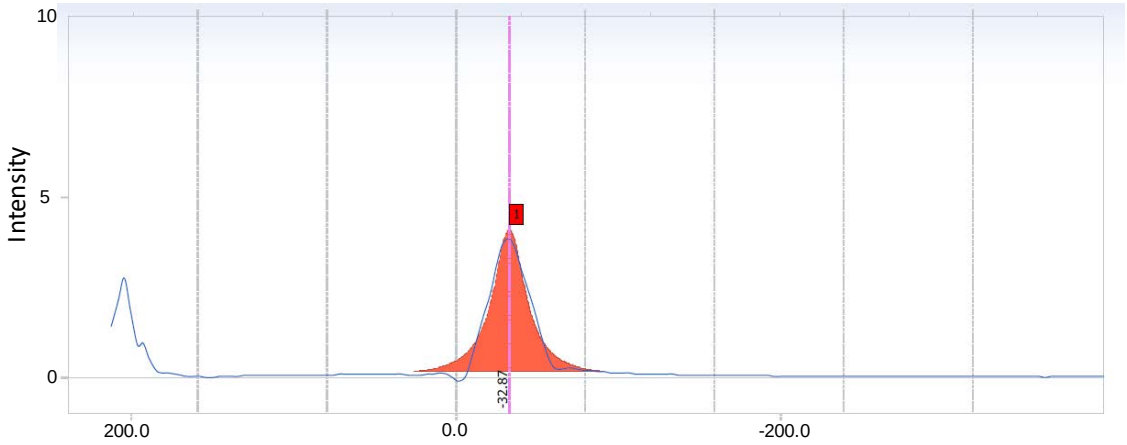


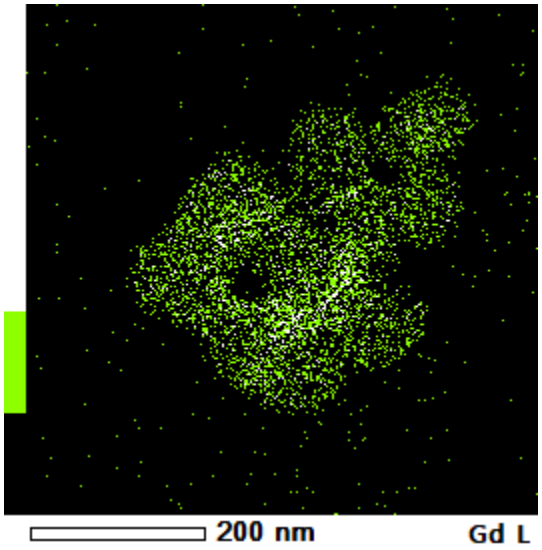
Supplementary Figure 1: Characterization of MSN before gadolinium loading. A: FT-IR analysis. B: TGA (thermogravitational analysis). C: Nitrogen adsorption/desorption analysis. D: Pore size distribution.



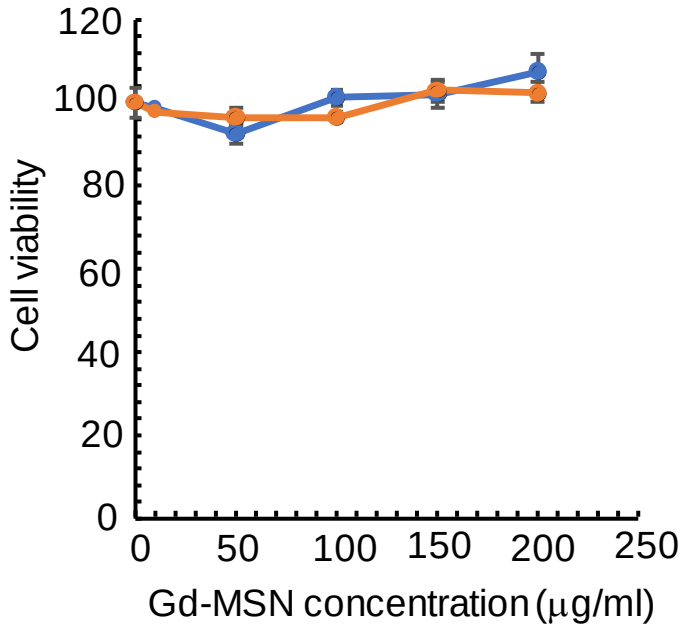
Supplementary Figure 2: Zeta potential of Gd-MSN.

Treatment	Amount of Gd on MSN (ppm)
Control	1.04
pH 5.5	1.03
pH 6.0	0.95
pH 6.5	0.96

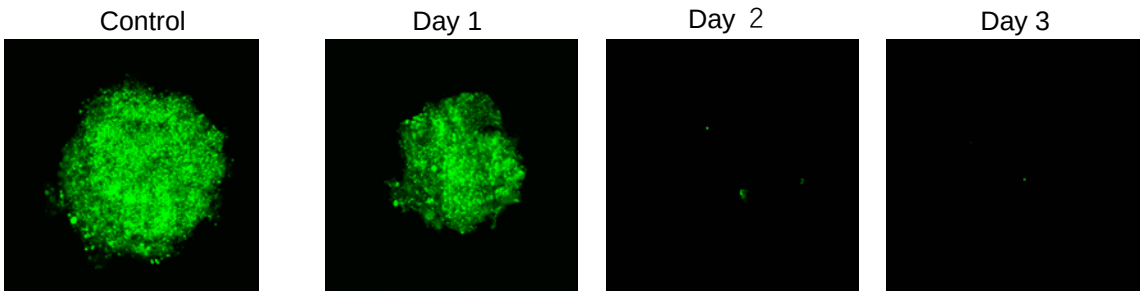
Supplementary Figure 3: Gadolinium remains bound to MSN after incubation in low pH solutions. Incubation was for two hours. The amount of gadolinium was examined by ICP-AES.



Supplementary Figure 4: STEM-EDX analysis of Gd-MSN after sonication for 30 min.



Supplementary Figure 5: Lack of toxic effect of Gd-MSN on HEK293 (orange) and OVCAR8 (blue) cells.



Supplementary Figure 6: Time course of spheroid destruction after irradiation.