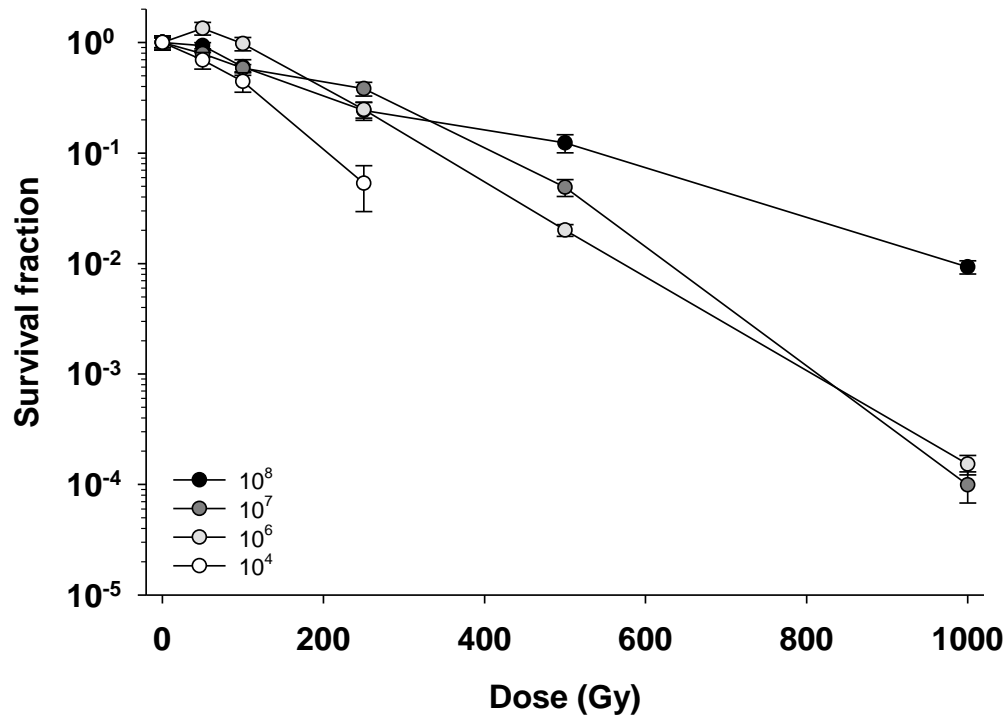
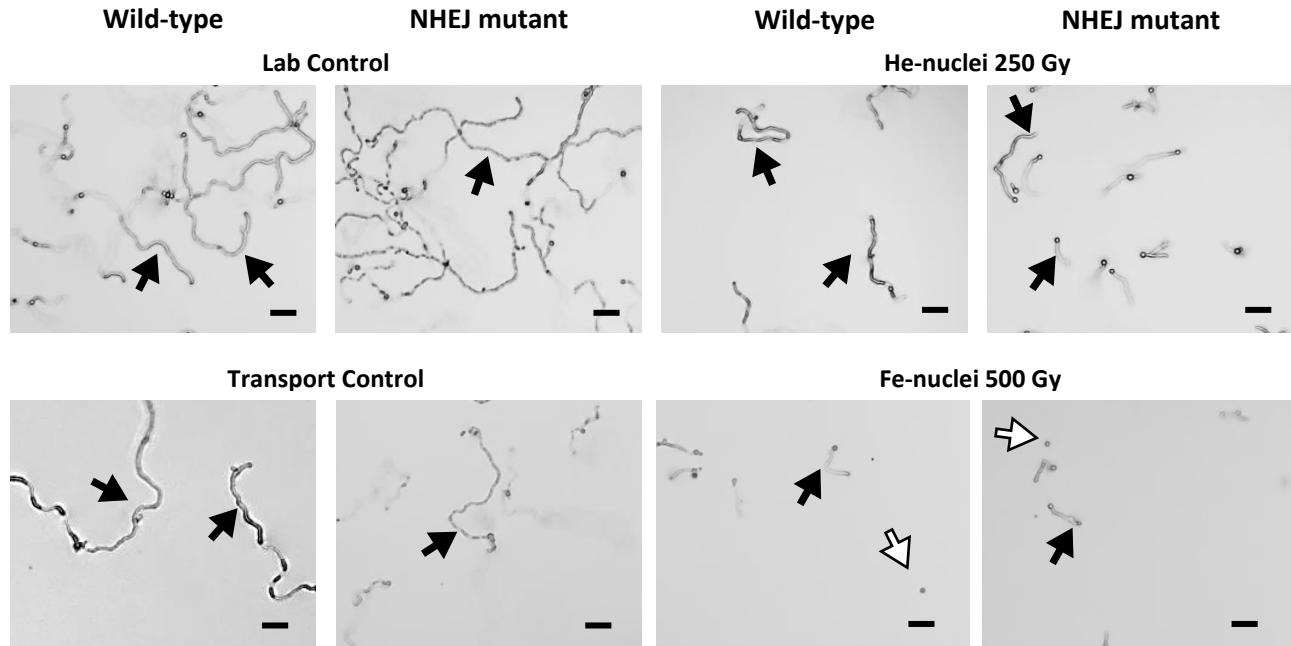


*Supplementary Material*

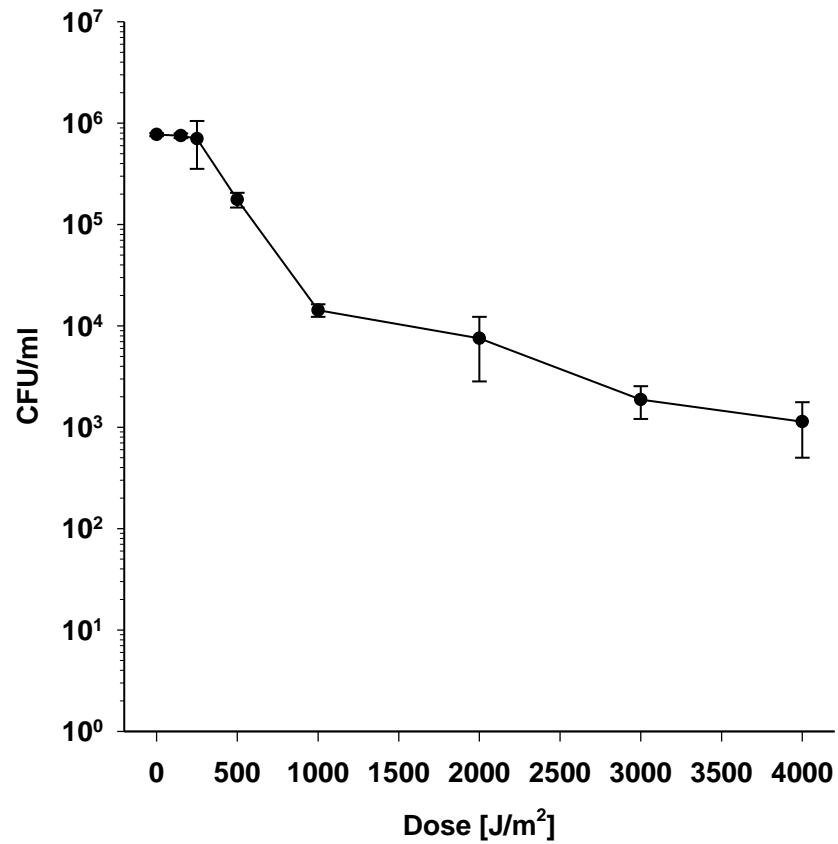
1 Supplementary Figures



**Supplementary Figure 1.** Effect of initial spore concentration (inoculum) in survivability towards ionizing (X-ray) radiation. At  $10^8$  spores/ml there is a spore multi-layer that can provide radiation shielding, whereas at  $10^6$  and  $10^7$  spores/ml there is a spore monolayer, preventing self-shielding from the spores. No CFU were detected after 250 Gy for  $10^4$  spores/ml.



**Supplementary Figure 2.** Germination of *A. niger* spores after He- and Fe-nuclei irradiation. Black arrows indicate regions of interest showing spore germination and varying hyphal length as the radiation dose increases. At 500 Gy of Fe-nuclei radiation there CFU were detected, but spore germination can still be identified. White arrows indicate un-germinated spores. Pictures were taken with after one day of incubation on MM-agar plates with an Axio Imager. M2 at 100 x magnification. Each picture was chosen as representative for the respective condition. Scale bar: 50  $\mu$ m.



**Supplementary Figure 3.** UV-C survival curve of *Aspergillus niger* wild-type spores showing dose-effect. Spores irradiated in 0.9 % NaCl (10<sup>6</sup> spores/ml), in air. Survivability was calculated as colony-forming units (CFU) per ml. LD<sub>90</sub> value is 1038 J/m<sup>2</sup>.