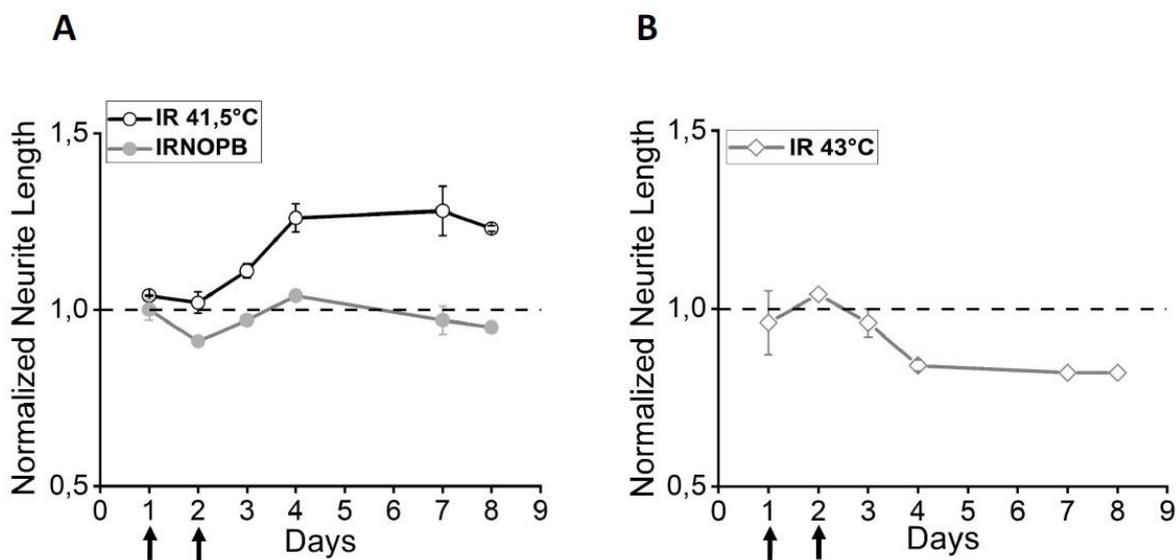


Supplementary Figure 1. Neurite length of F-11 cells heated (41,5°C) on day 1 and day 2 after seeding (black arrows) at different times of exposure. 10 minutes did not induce any effect on cell morphology compared to the control. Cells maintained at 41,5°C for 20 minutes showed neurites significantly longer versus the control only on day 2 ($p=0,01$, Mann-Whitney Test) and 4 ($p<0,001$, Mann-Whitney Test). Cells maintained at 41,5°C for 30 minutes showed neurites significantly longer compared to the control starting from day 2 ($p<0,001$, Mann-Whitney Test).



Supplementary Figure 2. (A) Morphological properties of irradiated F-11 cells on day 1 and day 2 after seeding (black arrows) with and without PBNPs. Mean neurite length was significantly longer ($p<0,001$) in irradiated samples with PBNPs compared to both cells irradiated without PBNPs and control. Moreover, cells irradiated without PBNPs showed a trend similar to the control for all the days of the experiment. (B) Morphological properties of irradiated F-11 cells at 43°C. Irradiated samples at 43°C showed shorter neurites and seemed to be more stressed compared to the control, which had a neurite length mean significantly longer starting from day 3 ($p<0,001$, Mann-Whitney Test), as seen in bulk heating experiments.