

## Intermediate report ESRF/2017

The experiments done during summer 2017 at ESRF show preservation of neurogenesis and cognitive functions in mice irradiated at 10 Gy similar to what we previously observed with FLASH-radiotherapy performed using a LINAC operating at ultra-high dose rate (>40 Gy/s). These results validate our hypothesis that ultra-high dose rate delivery and shortening of the irradiation time does spare normal tissue.

**Figure:** Cognition was measured by novel object recognition assay. n=nbre of mice in each group. Blue and green bars represent mice irradiated at ESRF, striped bars represent mice included in our previous experiments done with Flash-RT in Lausanne.

