

## **Investigations on the potential radio-protective properties of edible cyanobacterium during pelvic irradiation in a mouse model.**

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Exposure to pelvic irradiation result in several side effects including an increased oxidative stress<sup>[1]</sup>, increased inflammation and, dysbiosis of the gut microbiota resulting in diarrhea. Due to the ability to resist high doses of radiation (up to 6400Gy<sup>[2]</sup>) and its anti-oxidative capacity, the cyanobacterium *Arthrospira* sp. seems promising to treat these side effects. As such, we aimed to investigate the possible radio-protective properties of *Arthrospira* sp. by assessing its effects on: (i) ileum morphology, (ii) inflammation and (iii) gut microbiome composition. Here for, male mice received *Arthrospira* sp. supplemented chow prior to local 8Gy X-ray pelvic irradiation. These mice showed a significant decrease in villi length, but no change inflammatory response. In this pilot study, different high end points were used to evaluate the potential radio-protective properties of the cyanobacterium but to really understand the mechanism, more in depth techniques have to be used e.g. immunological staining for apoptosis.

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2. Badri H, Monsieurs P, Coninx I, Wattiez R, Leys N. Molecular investigation of the radiation resistance of edible cyanobacterium *Arthrospira* sp. PCC 8005. *MicrobiologyOpen*. 2015.