Identification of Keratin 15+ radio-resistant and tumor-initiating stem cells in the digestive tract

Stem cells are self-renewing multipotent cells that highly contribute to homeostasis of rapidly renewing tissues such as the skin and the digestive epithelium. They are also key players in tissue regeneration following injury and tumor initiation. Until recently, the existence of stem cells in the esophageal epithelium remained controversial. I recently identified that Keratin 15 (Krt15) marks a long-lived stem cell population in the mouse esophageal epithelium. Krt15+ esophageal cells are essential to tissue homeostasis and contribute to tissue regeneration following high-dose radiation. Furthermore, I identified a subpopulation of intestinal crypt cells that are Krt15+ and display clonogenic, regenerative and tumor-initiating capacities, characteristics consistent with a stem population. Further studies of these populations will allow specific therapeutic targeting to regulate their functions to improve tissue regeneration or cancer treatment.

Note: Prière d’aviser vos étudiants gradués et stagiaires postdoctoraux afin d’avoir la participation de tous.