

## **Analysis of cells in human head and neck squamous cell carcinoma (hHNSCC) models after irradiation in a micromilieu dependent manner.**

Ionizing radiation can lead to DNA damages including double strand breaks (DSB) and cell death. Gamma-H2AX ( $\gamma$ H2AX), a marker for DSB, is a potentially predictive biomarker for radiosensitivity. We could show that residual  $\gamma$ H2AX foci negatively correlate with radiosensitivity in hHNSCC xenograft models *in vivo*. In this project, we would like to evaluate the differences of  $\gamma$ H2AX for 6 hHNSCC xenograft *in vivo* models (3 HPV-positive and 3 HPV-negative), treated with radiotherapy and combined radiochemotherapy with Cisplatin. We want to evaluate  $\gamma$ H2AX foci differences of HPV-positive and HPV-negative models, also according the treatment and radiation dose.

### **Responsibility and tasks:**

- Establish an immunofluorescence double staining protocol to detect apoptosis and  $\gamma$ H2AX on formalin-fixed, paraffin-embedded (FFPE) samples.
- Stain for apoptosis and  $\gamma$ H2AX in 6 irradiated *in vivo* samples
- Compare the staining characters between HPV-positive and -negative samples treated with irradiation only and a combination of irradiation and chemotherapy
- Apply this procedure on different tumor models and analyze available images

### **Your profile:**

- Highly motivated student with strong interest in laboratory work
- Interest in radiobiology and radiooncology
- Enthusiastic about science and eager to learn new techniques
- Previous background knowledge of (cancer-) biology is advantage
- Excellent knowledge of English (speaking and writing)
- Team work and ability to work in interdisciplinary team

### **We offer the possibility to:**

- Implement your idea and work in a multidisciplinary team-oriented research environment
- Use an excellent equipped facility
- Arrange flexible working hours
- Participate in journal clubs, research seminars and group meetings

We look forward to receiving your application via e-mail.

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