



Institut de Recherche en Cancérologie de Montpellier

<http://www.ircm.fr>



# Experimental Radiotherapy Core Facility

## Journées ResPlaNdlr – Dijon 18-19 mars

Muriel Brengues Ph.D.

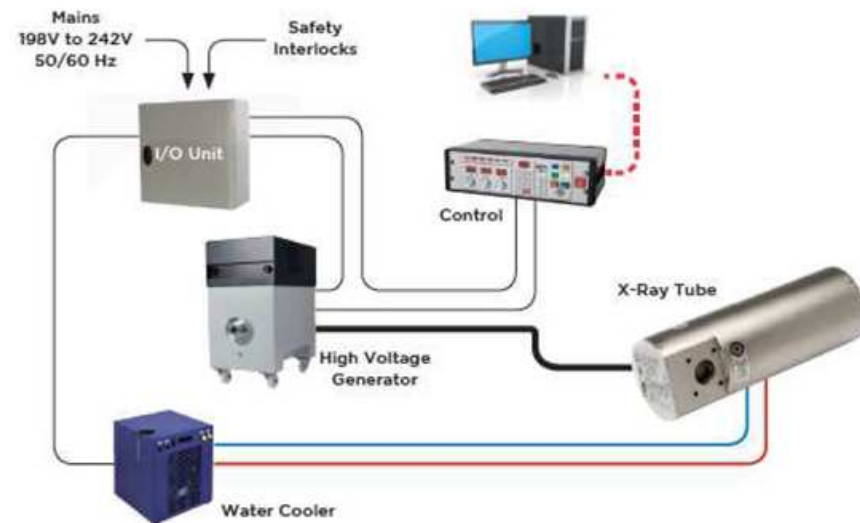


# XenX Irradiator- Xstrahl



**Location: IRCM  
MONTPELLIER**

Source: X rays  
Tube Voltage: 20-220 kV  
Current: 0-25 mA

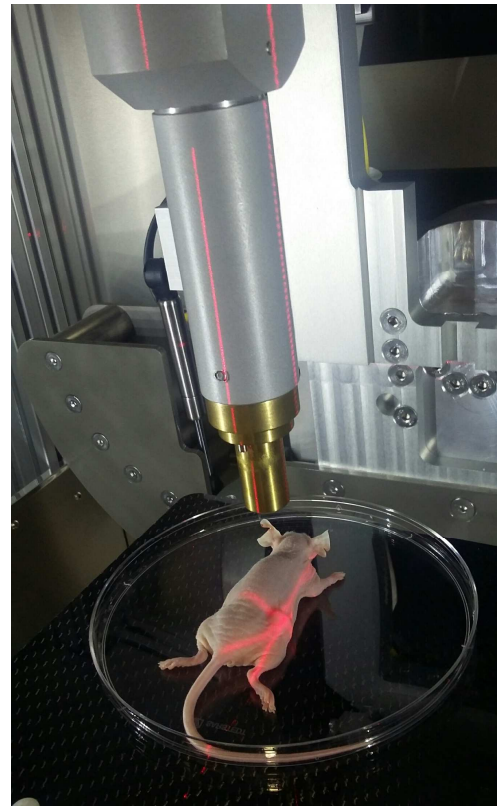


# Research Applications

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*In-vitro* irradiation



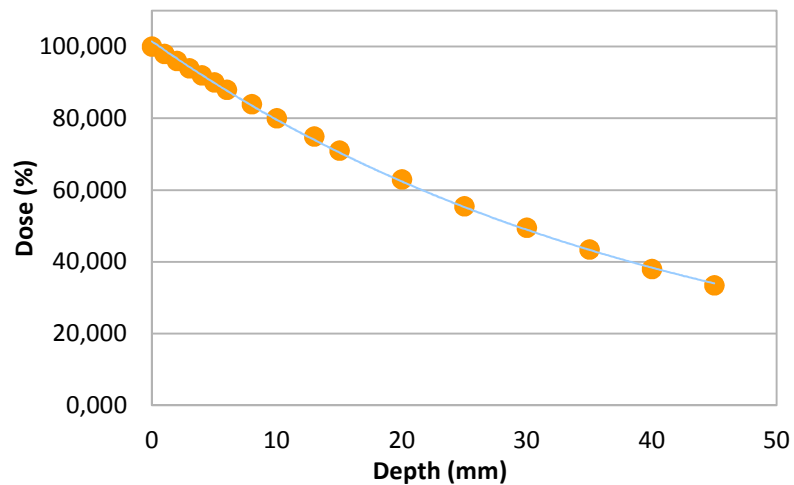
Local irradiation



Total body irradiation

# Irradiation

### Percentage Depth Dose (PDD)

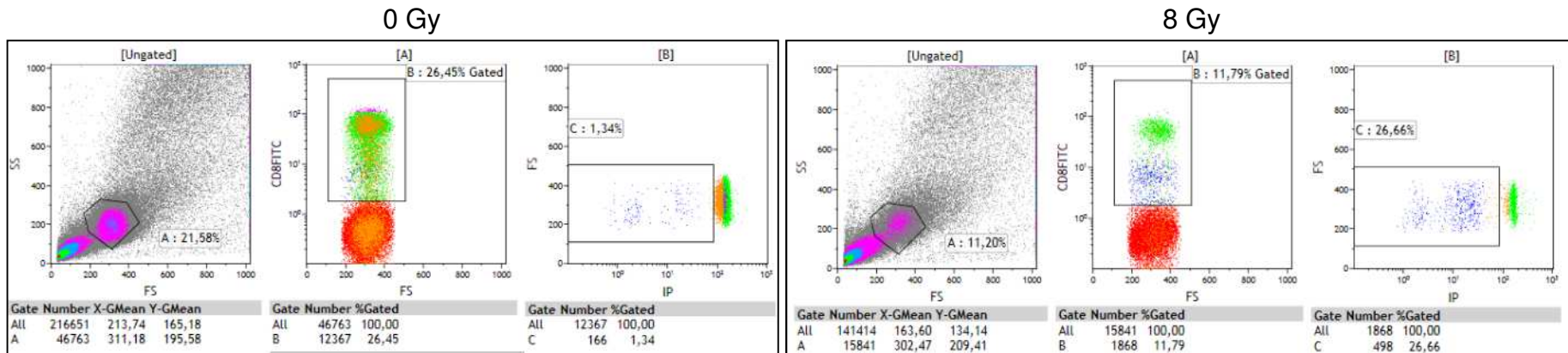
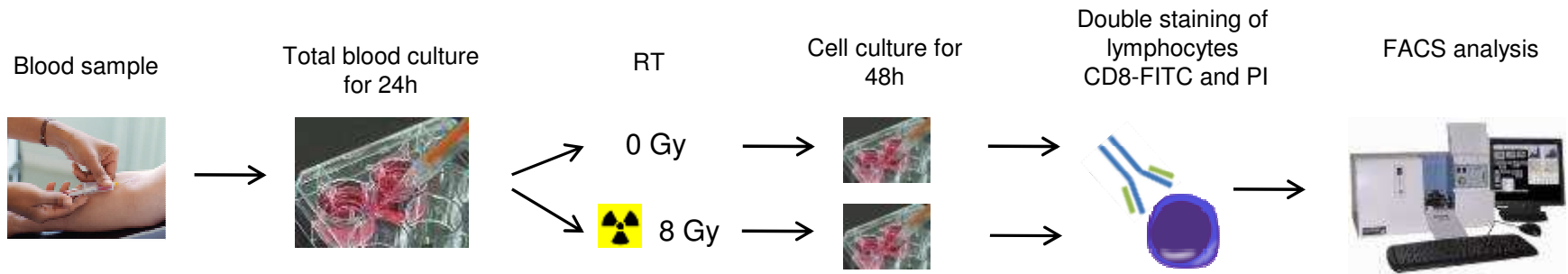


| Dose (cGy) | Distance SSD (cm) | Depth (mm) | PDD      | Time (sec)  |
|------------|-------------------|------------|----------|-------------|
| 800        | 35                | 2          | 0,972646 | 176,5652706 |



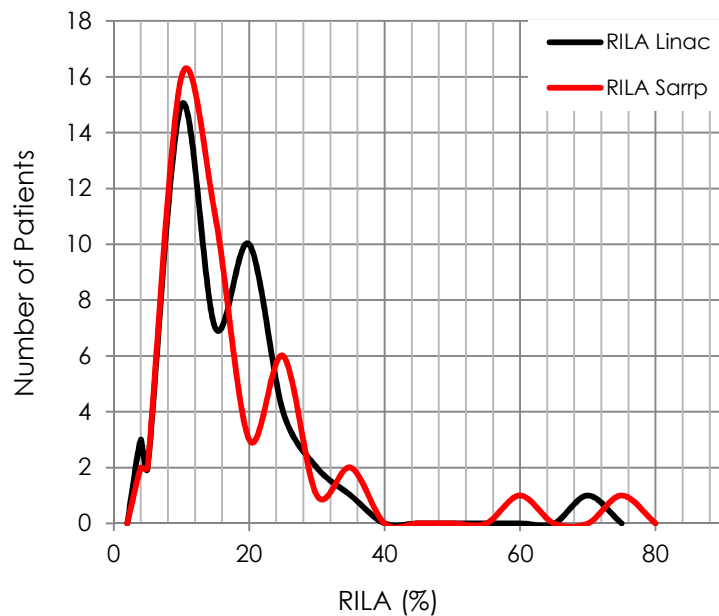


# Ex-vivo irradiation: RILA assay



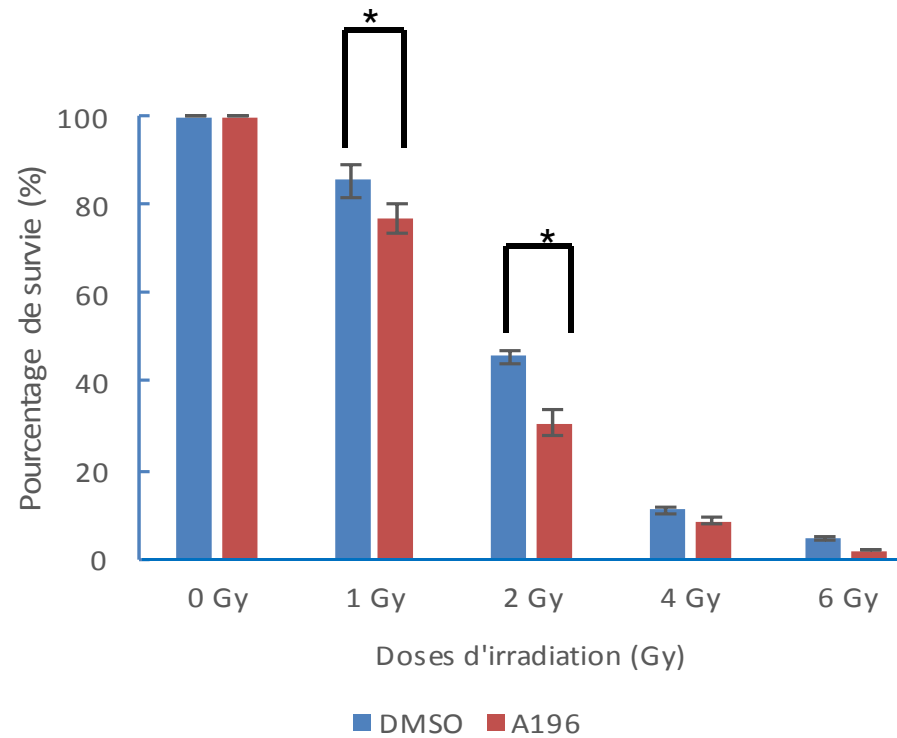
(D. Azria team. ICM/IRCM)

# XenX Varian Comparison: RILA assay



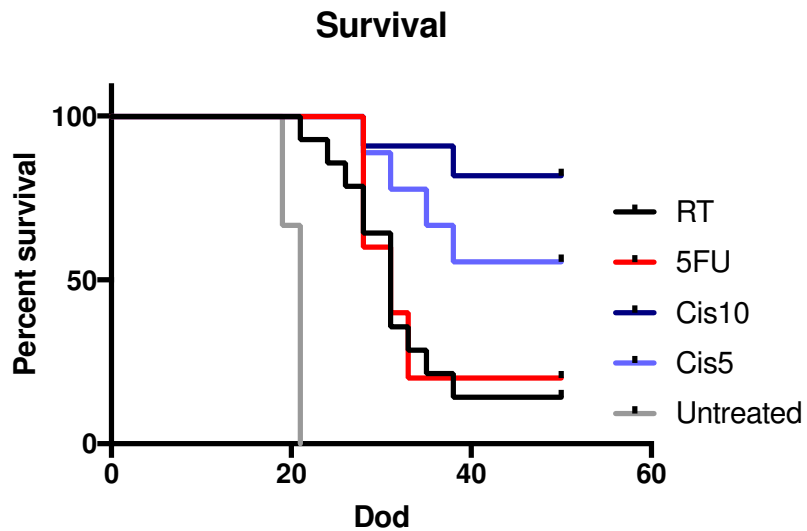
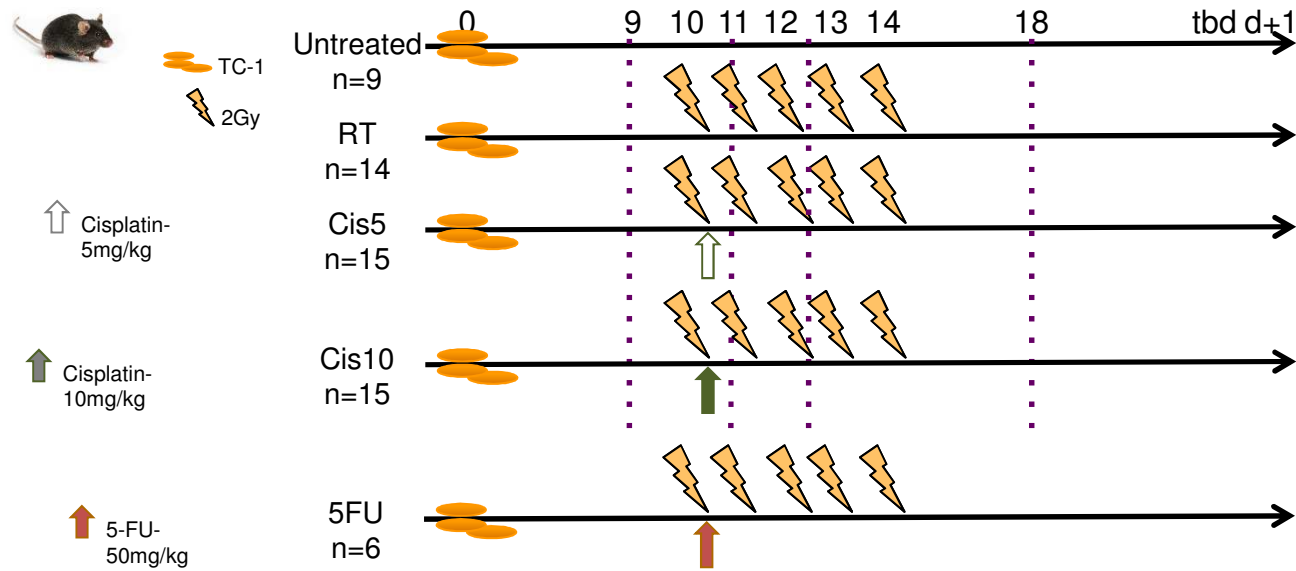
|                     | XenX               | Varian             | P-value |
|---------------------|--------------------|--------------------|---------|
| Median RILA (range) | 15,1% (3,4 - 72,9) | 14,2% (3,3 - 68,9) | 0,55    |

## *In-vitro* irradiation: Inhibition of H4K20me2/3 by A-196 in HPAC



(Nabiya, E. Julien team. IRCM)

# In-vivo irradiation: Cisplatin and 5FU evaluation for RT combination

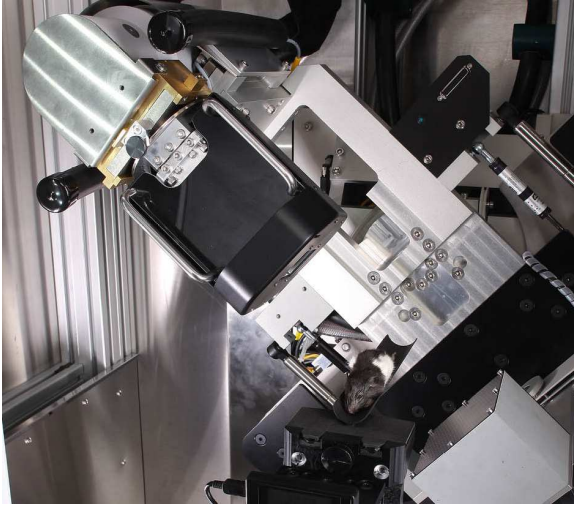


(H-Alex, N. Bonnefoy team. IRCM)



## *In-vivo irradiation: mice TBI. In process*

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### Mice total body irradiation by Continuous Arc Motion

Project: use PDX for pre-clinical studies of T cell acute lymphoblastic leukemia (PDTALL)

Goal: to kill bone marrow stem cells to help for the implantation of tumoral cells

(Maicol, A. Maraver team. IRCM)

# Personnel

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- ◆ **Head of Core Facility:** Muriel Brengues, Ph.D.
- ◆ **Physicist:** Norbert Ailleres, Ph. D.
- ◆ **Engineer:** Laura Bourillon
- ◆ **Assistant Engineer:** recruitment in process

## **Steering Committee**

Muriel Brengues, Ph.D

Karine Saget, Ph. D.

Jean-Pierre Pouget, Ph. D.

Norbert Ailleres, Ph. D.

Laura Bourillon

# Reservation

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Email: [Irrexp@icm.unicancer.fr](mailto:Irrexp@icm.unicancer.fr)

Price: 76 €/h IRCM teams  
84 €/h not IRCM teams  
251 €/h Industries

## Information:

- What type of sample?
- Which volume/ Type of flask/ Number of samples?
- What dose?
- When?

<http://montpellier-cancer.com/plateformes/plateformes-technologiques>

# Thank you

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David Azria, M.D, Ph. D.

André Pèlegrin, Ph. D.

Karine Saget, Ph. D.

Vanessa Guillaumon, Ph. D.

Jean-Pierre Pouget, Ph. D.

Norbert Ailleres, Ph. D.

Laura Bourillon