



The Biology & Chemistry of Radiations, Cell Signaling and Cancer domain at Institut Curie regroups 16 teams from the following units: UMR3348 CNRS, UMR3347 CNRS/ U1021 INSERM, UMR9187 CNRS/U1196 INSERM.

Our common scientific interests focus on two main areas:

-Biology of Radiation, DNA damage and Repair; to decipher cellular responses to various types of radiation, including ionizing and UV radiation by focusing on DNA metabolism mechanisms (repair, recombination and replication) and by covering emerging biological effects of radiation on the processing, stability and translation of mRNAs, and the involvement of non-coding RNAs.

-Cancer from molecules to cells and model organisms; to understand processes of development from stem cells to tissues, focusing in particular on neural crest development and melanogenesis, to decipher the mechanisms leading to cancers and metastasis and to develop strategies based on rational design, chemical library screening and molecular modeling for the discovery of new active agents for anticancer treatment.

These two areas benefit from the development of methods for visualizing the effects of new drugs for therapy and diagnosis and for tracking new chemicals or radiosensitizers in cells, tissues and organisms, through the design of new and specific multiparametric and multimodal imaging approaches, protocols and algorithms.

In the field of biomedical research, we are particularly involved in optimizing the response to radiotherapy while reducing side effects.