The Genetics and Developmental Biology Department (or Unit) of the Institut Curie was inaugurated in October 2008, with the support of CNRS and Inserm and in partnership with University Paris 6 (UPMC). The Unit currently consists of nine internationally competitive research teams.

The goal of this Unit is based on the simple, but fundamental, concept that an understanding of normal developmental regulation should provide us with a better understanding of the basis of human pathology. During development, cells have to integrate different types of molecular and physical information to proliferate, and to make decisions such as whether to maintain pluripotency or trigger differentiation and acquire specialisation for tissue-specific functions.

Cancerisation can result from perturbations at each of these levels and is linked to misregulation of developmental signalling pathways, uncontrolled cellular proliferation and a loss of cellular identity.

**Key publications**

**Year of publication 2019**

Larissa Mourao, Guillaume Jacquemin, Mathilde Huyghe, Wojciech J Nawrocki, Naoual Menssouri, Nicolas Servant, Silvia Fre (2019 Jan 31)

*Lineage tracing of Notch1-expressing cells in intestinal tumours reveals a*
distinct population of cancer stem cells.
*Scientific reports*: 888 : [DOI: 10.1038/s41598-018-37301-3](https://doi.org/10.1038/s41598-018-37301-3)


**Membrane reshaping by micrometric curvature sensitive septin filaments**
*Nature communications*: [DOI: 10.1038/s41467-019-08344-5](https://doi.org/10.1038/s41467-019-08344-5)

**Year of publication 2018**


**The Implication of Early Chromatin Changes in X Chromosome Inactivation**

Eleonora Meschi, Pierre Léopold, Renald Delanoue (2018 Dec 10)

**An EGF-Responsive Neural Circuit Couples Insulin Secretion with Nutrition in Drosophila.**
*Developmental cell*: [DOI: 10.1016/j.devcel.2018.11.029](https://doi.org/10.1016/j.devcel.2018.11.029)

Anna M Lilja, Veronica Rodilla, Mathilde Huyghe, Edouard Hannezo, Camille Landragin, Olivier Renaud, Olivier Leroy, Steffen Rulands, Benjamin D Simons, Silvia Fre (2018 May 23)

**Clonal analysis of Notch1-expressing cells reveals the existence of unipotent stem cells that retain long-term plasticity in the embryonic mammary gland.**
*Nature cell biology*: [DOI: 10.1038/s41556-018-0108-1](https://doi.org/10.1038/s41556-018-0108-1)

MaryJane Shimell, Xueyang Pan, Francisco A Martín, Arpan C Ghosh, Pierre Leopold, Michael B O’Connor, Nuria M Romero (2018 Feb 23)

**Prothoracicotropic hormone modulates environmental adaptive plasticity through the control of developmental timing.**
*Development (Cambridge, England)*: [DOI: dev159699](https://doi.org/dev159699)