

Fiche mise à jour le 22/08/2023   ■

201420747V : CellCh UMR3666-U1143 - Cellular and Chemical Biology - Unité de recherche

## Responsables

Le responsable ne souhaite pas publier ses coordonnées. **DIR.** - Ludger JOHANNES à partir du 01/01/2014

[Ludger.Johannes@curie.fr](mailto:Ludger.Johannes@curie.fr)

Le responsable ne souhaite pas publier ses coordonnées.

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**Adresse :** 26 rue d'Ulm 75248 PARIS CEDEX 05

**Site :** <https://curie.fr/unite/umr3666-u1143>

**Descriptif :** Wider than pharmacology or medicinal chemistry, chemical biology consists in designing and developing chemical tools, and using them to better unravel the functioning of biological systems, should it be an organism, a cell, or a biochemical reaction, and without the need or the aim of an immediate medical application. In the case of this unit, chemical biology has been used to study various processes that occur in biological membranes, including signal transduction, cell response to mechanical stress, and membrane traffic. The arrival of the Rodriguez team has expanded the expertise of the unit to the field of cancer biology. To better acknowledge this change, the previous unit's name 'chemical biology of membranes' will change to 'cellular and chemical biology'. A more detailed list of the research lines is as follows:  $\zeta$  glycosphingolipid functions in endocytosis and intracellular sorting;  $\zeta$  caveolae in mechanoprotection, signaling and transduction;  $\zeta$  intracellular signalling from endosomes;  $\zeta$  small molecule lead discovery in membrane trafficking, signal transduction and epigenetics;  $\zeta$  targeted delivery of therapeutic compounds to tumors and to dendritic cells for immunotherapy;  $\zeta$  identification of chromatin binding sites of chemical compounds (click-seq) and therapeutic principles for personalized medicine.

**Ecole(s) doctorale(s) de rattachement :** non renseignée

**Rattachée au(x) thème(s) de recherche suivant(s):**

- Keywords: Clathrin; clathrin-independent; raft; glycosphingolipid; lectin; galectin; glycosylation; endocytosis; endosome; intracellular trafficking; retrograde transport; retromer; syntaxin
- endoplasmic reticulum; Shiga toxin; intoxication; integrin; CD44; small molecule inhibitor; chemical genetics; therapeutic delivery; linker arm chemistry; prodrug; ADC; immunotherapy; breast cancer
- Medicinal Chemistry; Chemical Biology; self-immolative spacers; drug targeting; immunology; breast cancer; muscular dystrophies; atherosclerosis
- Caveolae, cavins, EHD2, mechanotransduction, lipid rafts, nanodomains, endocytosis, intracellular trafficking, endosome; JAK/STAT signaling; interferon receptors; mechanical stress; 3D spheroids
- Small molecules; iron; endocytosis; traffic; chromatin; epigenetics; cancer

**Liens avec d'autres structures :**

Regroupe :

- [Unité propre 202324398Z - Imagerie Spatio-Temporelle, Intelligence Artificielle et Calcul Numérique pour la Biologie Cellulaire et Chemobiologie](#) (lien non exclusif)

**Contact:** ludger.johannes@curie.fr

**Année de création :**2014

**Site ESR :** Aucun

**Classement scientifique ERC :**

- LS1 : Molecules of Life: Biological Mechanisms, Structures and Functions : Molecular biology, biochemistry, structural biology, molecular biophysics, synthetic and chemical biology, drug design, innovative methods and modelling
- LS3 : Cellular, Developmental and Regenerative Biology : Structure and function of the cell, cell-cell communication, embryogenesis, tissue differentiation, organogenesis, growth, development, evolution of development, organoids, stem cells, regeneration, therapeutic approaches
- LS9 : Biotechnology and Biosystems Engineering : Biotechnology using all organisms, biotechnology for environment and food applications, applied plant and animal sciences, bioengineering and synthetic biology, biomass and biofuels, biohazards

**Domaine scientifique :**

- 5 : Biologie, médecine et santé 2014

#### Etablissements

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INS.CURIE -  
Institut Curie  
Paris (UMR  
3666)

(établissement  
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de 2014)

**Etablissement  
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CNRS -  
Centre  
national de la  
recherche  
scientifique  
(UMR 3666)  
(établissement  
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Institut  
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sante et de la  
recherche  
medicale (U  
1143)  
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PSL -  
Université  
Paris sciences  
et lettres  
(UMR 3666)  
(établissement  
tutelle à partir  
de 2020)

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U PARIS Cité  
- Université  
Paris Cité  
(UMR 3666)  
(établissement  
participant à  
partir de  
2020)

## Historique

- Libelle(s) de structure
  - 25/02/2019 : Cellular and Chemical Biology, UMR3666-U1143 (CellChemBi)
  - 12/04/2017 : Chimie Biologique des Membranes et Ciblage Thérapeutique, UMR3666-U1143
  - 26/03/2015 : CBMCT
  - 17/09/2014 : Chimie Biologique des Membranes et Ciblage Thérapeutique
- Label et Numéro d'établissement
  - 13/05/2020 : **UMR 3666**  
PSL - Université Paris sciences et lettres (UMR 3666)
  - 07/01/2020 : **UMR 3666**  
U PARIS Cité - Université Paris Cité (UMR 3666)
  - 18/09/2015 : **UMR 3666**  
INSERM - Institut national de la sante et de la recherche medicale (U 1143)
  - 17/09/2014 : **UMR 3666**  
INS.CURIE - Institut Curie Paris (UMR 3666)
  - 17/09/2014 : **UMR 3666**  
CNRS - Centre national de la recherche scientifique (UMR 3666)
  - 17/09/2014 : **U 1143**  
INSERM - Institut national de la sante et de la recherche medicale (U 1143)
- Etablissements
  - 2014 - 2019 : PARIS 5- Université Paris Descartes Paris 5