Innate immunity is an ancient and universal form of defence against damages, threats and pathogens such as viruses.

How the innate immunity distinguishes self from non-self (e.g. viruses) inside cells remains poorly understood. As a result, the ability to exploit innate immunity for anti-viral treatments, vaccines or cancer immunotherapy has remained limited.

The lab investigates the regulation, function and application of innate immunity.

Our goal is to discover the molecular mechanisms that enable the immune system to distinguish self from non-self inside cells. We study HIV, other viruses and auto-immunity and development of the immune system. We use primary human immune cells, mouse models, cell lines and computational tools. We develop applications of our research for clinical use.

Key publications

Year of publication 2020


A J Lomakin, C J Cattin, D Cuvelier, Z Alraies, M Molina, G P F Nader, N Srivastava, P J Sáez, J M

**The nucleus acts as a ruler tailoring cell responses to spatial constraints.**

*Science (New York, N.Y.)* : [DOI: eaba2894](https://doi.org/10.1126/science.eaba2894)

Laurent Zablocki-Thomas, Sam A Menzies, Paul J Lehner, Nicolas Manel, Philippe Benaroch (2020 Apr 7)

**A genome-wide CRISPR screen identifies regulation factors of the TLR3 signalling pathway.**


**A Comprehensive Map of the Monocyte-Derived Dendritic Cell Transcriptional Network Engaged upon Innate Sensing of HIV.**


Year of publication 2019

Haifa B1, Ines Z1, Manel N2, Amira D3, Sonia Z3, Laila N2, Houda M4, Anis H1, Raja F1. (2019 Oct 14)

**Clear cell gynecologic carcinomas: about 5 cases.**

*The Pan African Medical Journal* : 34 : 87 : [DOI: 10.11604/pamj.2019.34.87.18505](https://doi.org/10.11604/pamj.2019.34.87.18505)

Gratia M1,2,3, Rodero MP4,5, Conrad C1, Bou Samra E2,3, Maurin M1, Rice GI6, Duffy D7, Revy P4, Petit F8, Dale RC9, Crow YJ#10,5,11, Amor-Gueret M#12,3,13, Manel N#14. (2019 May 6)

**Bloom syndrome protein restrains innate immune sensing of micronuclei by cGAS.**