

TEAM CERDAN / GOMES

MOLECULAR APPROACHES FOR NEW ANTIMALARIAL STRATEGIES



STAFF

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RESEARCH PROJECTS

- 1- ***Plasmodium* cell cycle regulation and cell fate decisions** (A. Gomes)
- 2- **Phospholipid metabolism** (R. Cerdan)
- 3- **Development of new antimalarial compounds** (R. Cerdan)

Basic Research

Applied Research

NEW TARGETS

NEW COMPOUNDS

NEW DRUGS

Project 1: *Plasmodium* cell cycle regulation and cell fate decisions

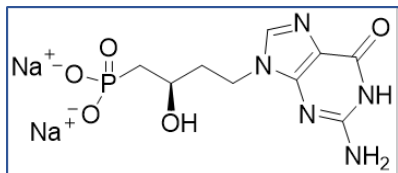
- ✓ Initiation of DNA replication
- ✓ Cell cycle progression and checkpoint discovery
- ✓ Sex determination

Project 2: Phospholipid Metabolism

- ✓ Deciphering the PL metabolism of *P. falciparum* to identify new target(s)

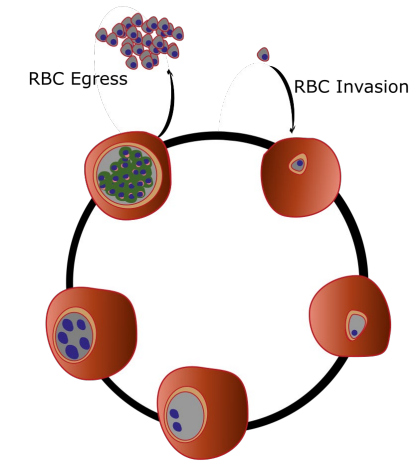
Project 3: Analogs of Nucleotides/Nucleosides as Antimalarial compounds

- ✓ Identification of the mechanism of action and the drug target



IC₅₀ (*P.f.*) = 74 nM
ED₅₀ ip (*P.b.*) = 0.5 mg/kg/d
MOA : block egress

Coll. S. Peyrottes (IBMM)



Approaches:

→ Transcriptomics, Live Microscopy, Genome editing, Genetic screening

→ Lipidomics, biochemical/enzymatic assays, recombinant proteins

→ Drugs screening (*P. falciparum*, blood stage)
mouse model (*P. berghei*, *P. vinckei*)

L3 Malaria Platform (two L3 laboratories)

(Resp. Sharon Wein)

- Open lab
- Drug screening (MTP)



EM4Bio Platform

LPHI-MRI R&D IMAGING PLATFORM

(Resp. Laurence Berry)

- development of modern approaches of EM of cells and tissues
- services in sample preparation, 2D and 3D imaging and image analysis.
- develop new approaches to answer specific biological questions

