To Target Or Not: Lessons Learned in Malaria Drug Discovery

Dr. Thierry Diagana
Head, Novartis Institute for Tropical Diseases

Abstract
To anticipate the threat of wide-spread artemisinin drug resistance and to improve on the current standard treatments, the Novartis Institute for Tropical Diseases and the Genomics Institute of the Novartis Research Foundation partnered with the Swiss Tropical Institute and the Biomedical Primates Research Center (BPRC) to discover new antimalarial drugs with novel mechanism of action. Armed with a grant from the Wellcome Trust, the Medicines for Malaria Venture and the Singapore Economic Development Board, this consortium aimed to identify new drugs with a potential for a single dose cure for falciparum malaria, and a curative modality for vivax malaria. In five years, the target-less phenotypic screening approach yielded two novel chemical entities—NITD609 and GNF156—with potent antimalarial activities showing pharmacological properties consistent with our first goal of single dose cure treatment for falciparum malaria. We will present data highlighting the pros and cons of target-based and phenotypic approaches to anti-infective drug discovery.

Selected Relevant Publications...


