Purpose

Malaria is a blood disease that kills nearly 1 million people each year. New medicines are needed since the parasites that cause disease are becoming increasingly resistant to current antimalarial therapies. The Center for Rare and Neglected Diseases at the University of Notre Dame forged a partnership with Eli Lilly and Company and with Medicines for Malaria Venture to find new antimalarial medicines.

Developing antimalarial drug leads

Our aim is to mirror the industrial discovery phase but at a smaller, academic scale. CRND is setting up a high throughput screening facility on-campus with a Hamilton StarLet Liquid Handling Station integrating with a high-content Acumen microscope. Scientists in CRND are working with Lilly scientists to ensure that biological tests meet the highest quality standards.

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Through a public-private partnership, we have screened a select Lilly chemical library to develop potential new medicines. Eli Lilly and Company has not only provided its library, which links chemical structures to biological information, it has also provided valuable drug discovery expertise. Medicines for Malaria Venture, a global pharmaceutical cooperative committed to the eradication of malaria, links academic scientists with resources to accelerate antimalarial drug discovery. From over 110,000 compounds tested, nearly 300 are promising. They are potent and selectively inhibit malaria parasite growth but not that of human cells. Now that the first round of testing is complete, confirmatory assays of the active compounds are underway. All actives will be cross-referenced with information from the Lilly chemical database. With this added knowledge, we at CRND aim to identify the best candidates to put into pre-clinical development.