



## Drug Discovery for Tropical Diseases at the NITD

The fundamental role of the pharmaceutical industry is to discover, develop, produce, and deliver innovative products to prevent and cure diseases, to ease suffering, and to enhance the quality of life for patients worldwide. According to the World Health Organization, infectious diseases carry 10 percent of the global disease burden and cannot afford to be neglected any longer.

Novartis' investment in the field of tropical disease research is an exception in an industry that has traditionally neglected illnesses seen as endemic within the developing world. This research center is the first of its kind to focus solely on drug discovery for infectious disease, using modern pharmaceutical research tools including high-throughput screens, and crystallography/NMR studies. It will also house a state-of-the-art biosafety level 3 lab.

One of our major hopes, beyond actually delivering drugs to the patients who need them, is that the NITD will become a model for solving the problem of access to medicine to the poor countries. We hope that other companies will copy us and that the NITD will become a center of knowledge and of education, helping people in the developing world learn how to continue to address these problems in their own countries.

Prof. Paul Herrling, Ph.D.  
Head of Corporate Research, Novartis International AG,  
and Chair of the Board of the Novartis Institute for  
Tropical Diseases

## Our Mission

The Novartis Institute for Tropical Diseases aims to discover novel treatments and prevention methods for major tropical diseases. In those developing countries where these diseases are endemic, the Novartis Group intends to make treatments readily available without profit to poor patients. The discovery technology is state-of-the-art and the scope of the activities ranges from target discovery, screen development and compound optimization, up to readiness for clinical testing. The institute is looking to recruit the best scientists in the world, and as a major center of excellence, will offer exceptional teaching and training opportunities for post-doctoral fellows and graduate students.

## Our Vision

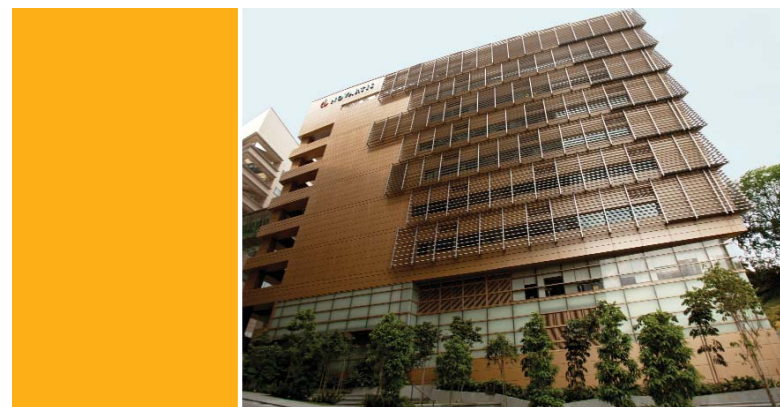
Novartis' long-term aim is to help reduce the overall affliction of tropical diseases, and ultimately, improve the prosperity of developing countries. With the founding in Singapore of the Novartis Institute for Tropical Diseases, the company intends to advance medical research of progressive infectious diseases that affect so many people in the developing world.

## Our Goal

The Novartis Institute for Tropical Diseases strives to become known in the area of dengue fever, tuberculosis and malaria, contribute to the education of young scientists, and to be a role model for public-private partnerships in Southeast Asia. NITD aims to achieve the following goals: at least two compounds in clinical trials by 2008, and one novel compound available to patients by 2012.

**For information on Novartis,  
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## Novartis Institute for Tropical Diseases, NITD

Drug Discovery for  
Tropical Diseases





## Partnerships

The NITD was set up as a public-private partnership between Novartis and the Singapore Economic Development Board and aims to discover novel therapies and preventive treatments for dengue fever, tuberculosis, and malaria.

The NITD is entirely dependent on the early formation of partnerships on a global scale, from early research activities such as target identification and high throughput screening, through later stages of the drug-development process. Partnerships are also necessary for successful outreach to patients, and to make treatments available to developing countries under affordable conditions.

Examples of NITD partnerships are:

### **Singapore Dengue Consortium**

The Singapore Dengue Consortium consists of six organizations, including the NITD, focused on research into dengue fever. These organizations have signed a memorandum of understanding with the intention of exploring ways to better understand and manage the dengue fever infection. The other consortium members include the Environmental Health Institute, Genome Institute of Singapore, SingHealth Group, National Healthcare Group, and Temasek Life Sciences Laboratory.

### **Global Alliance for TB Drug Development**

The Global Alliance for TB Drug Development is a public-private partnership driven to halt the rise and reverse the spread of tuberculosis. Novartis and the Global TB Alliance are currently coordinating efforts at the NITD in Singapore. Both parties are also pursuing a more concrete and expanded collaboration in the area of TB drug discovery.

“Instead of just giving money toward the cause, Novartis decided that it would contribute with leading-edge drug discovery science. We will leverage the experience, the technology and the databases in the large Novartis research family to try to come up with effective treatments for tropical diseases.”

— Paul Herrling, Ph.D.,  
Head of Corporate Research, Novartis International AG,  
and Chair of the Board of the Novartis Institute for  
Tropical Diseases

### **NITD - Eijkman Institute - Hasanuddin University Clinical Research Initiative (NEHCRI)**

NITD has a partnership with the Eijkman Institute and Hasanuddin University to conduct clinical research into dengue fever, tuberculosis and malaria that aims to strengthen translational research in these areas. The establishment of the NEHCRI will provide NITD researchers direct access to hospitals and patients in a real-life context on a daily basis.

### **Grant from Wellcome Trust, Singapore Economic Development Board and Medicines for Malaria Venture for malaria research**

The partnership will allocate resources to discover the next generation of malaria drugs focussing on the development of a one-dose cure for *Plasmodium falciparum*, the most dangerous form of malaria, and a curative modality for *Plasmodium vivax*, the most frequent and widely distributed cause of malaria. NITD will manage the program and conduct research jointly with several institutions including the Genomics Institute of the Novartis Research Foundation, the Swiss Tropical Institute and the Biomedical Primate Research Center.

### **Grant from the Grand Challenges for Global Health Initiative, funded by the Bill and Melinda Gates Foundation and Wellcome Trust**

Together with Imperial College as the lead grantee, NITD and 10 other collaborators received a US\$20 million grant to discover new targets for latent and persistent TB infection. The aim is to deliver final candidate compounds for pre-clinical development for these targets.

## Building Strong Relationships

The NITD has also built strong relationships with leading members of the local, regional, and global scientific and clinical communities, with international organizations, such as the World Health Organization and Health ministries of the region, and with non-governmental organizations, including: the Stop TB Partnership; the Drugs for Neglected Diseases Initiative; Médecins Sans Frontières; the Grand Challenges for Global Health Foundation of the National Institute of Health; and the Pediatric Dengue Vaccines Initiative.

## Novartis Corporate Research Institutes

The NITD is one of three corporate research institutes overseen by Prof. Paul Herrling, Ph.D. The other two Corporate Research institutes are the Friedrich Miescher Institute (FMI) in Basel, Switzerland, and the Genomics Institute of the Novartis Research Foundation (GNF) in La Jolla, California. The Corporate Research institutes' mission is to contribute their specific scientific knowledge toward Novartis' goal of addressing unmet medical needs. Novartis Corporate Research accesses talent pools throughout the world, and fosters collaborations between its three institutes as well as with external partners. To learn more please visit [www.gnf.org](http://www.gnf.org) and [www.fmi.ch](http://www.fmi.ch).

