The Tropical Disease Initiative

An Open-Source Initiative for Biomedical Research

The Tropical Disease Initiative aims to apply an open-source collaborative approach to biological and medical research for tropical diseases.

Computation plays an increasing role in biology. The convergence between computing and biology suggests that open source methods can be used to organize early phase drug discovery. We argue that a new approach, which we call open source drug discovery, would significantly reduce the cost of discovering, developing and manufacturing cures for tropical diseases. First, it would give hundreds of scientists a practical way to donate urgently needed manpower. Second, open source discoveries would not be patented, permitting sponsors to award development contracts to the company that offered the lowest bid. Finally, competition from generic drug makers would keep manufacturing prices at or near the cost of production, significantly accelerating drug development for the 500 million people who currently suffer from tropical diseases.

Only about 1% of newly developed drugs are for tropical diseases, such as African sleeping sickness, dengue fever, and leishmaniasis. While patent incentives and commercial pharmaceutical houses have made Western health care the envy of the world, the commercial model only works if companies can sell enough patented products to cover their research and development (R&D) costs. The model fails in the developing world, where few patients can afford to pay patented prices for drugs.

Open-source drug discovery is feasible: no known scientific or economic barrier bars the way

Pilot project: Target selection for structural genomics in Malaria ⊖ ⊖ Malaria | A Tropical Disease Initiative ▲ ▶ △ C + A. ▲ ● ⊕ http://www.thesynapticleap.org/malaria/ 0555 ~Q~ Coogle Malaria Malaria is the most important tropical disease, remaining widespread throughout the tropics, but also occurring in many temperate regions. It exacts a heavy toll of illness and death - especially amongst children and pregnant women. It also poses a risk to travellers and immigrants, with imported cases increasing in non-endemic areas. Treatment and control have become more difficult with the spread of drug-resistant strains of parasites and insecticide-resistant strains of mosquito vectors. more information Password: Log in By marcius at 2005-11-15 18:31 | login or register to post comments Create new account Request new passy Projects For the beta period, the list of projects within the community will be manually maintained by me. To discuss potential other projects with other community members, use the malaria discussion forum. If you have one going and want me to add it to the list, email me or post a comment to this page. -marcius Navigation search resource links projects discussion forums create content Active Projects These are projects currently in process. Gene Poll I'm building an annotation tool and poll to allow the Malaria Community to vote on the most interesting genes to study next. This poll is to plug into the community software infrastructure and become a common tool for all to use. blogs news feeds CiteULike o the Connotea Malaria Journal By marcius at 2005-10-21 14:54 | login or register to post comments | read more Technorati categories Beta research community provided by The Synaptic Leap and powered by Drupal Who's online There are currently 0 users and 2 guests online.

computational approaches VIRTUAL PHARMA and other development organizations porations can work together for a common cause. TOXICITY AND PHARMACOKINETIC EVALUATION CLINICAL STUDIES DRUG PRODUCTION TARGET DISCOVERY LEAD DISCOVERY LEAD OPTIMIZATION More reading... experimental approaches DRUGS http://www.tropicaldisease.org http://www.thesynapticleap.org/malaria/

We suggest an open source, approach to drug development, called the Tropical Diseases Initiative (TDI). We envisage TDI as a decentralized, Web-based, community-wide effort where scientists from laboratories, universities, institutes, and cor-

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- Finding Cures for Tropical Diseases: Is Open Source an Answer? S.M. Mauer, A. Rai, and A. Sali PLoS Medicine 1, 180-183, 2004.
- An open-source shot in the arm? The Economist June 10th 2004.









