

Company: C-yen

Project: Life-saving medications produced locally

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Overview: C-yen aims to enable life-saving medications to be produced sustainably, affordably, autonomously, and locally—where they are needed most—by leveraging a proprietary strain of cyanobacteria that captures atmospheric CO<sub>2</sub> and transforms it into HIV medication (3, 4). C-yen has elected to prioritize its engineered cyanobacteria for HIV/AIDS treatments due to the virus's impact on life expectancy and continued spread since the 1980s. HIV treatment drugs are primarily produced in the US and Europe and are exorbitantly expensive due to expensive cell culture processes and proprietary raw materials needed to produce these medications, while the nearly 70% of the 38 million people impacted by the HIV virus worldwide reside in Africa and Asia. These countries depend on imported drugs and depend largely on government subsidies or international aid to make the treatment affordable.

C-yen believes that life-saving medication should not be a luxury to import, and we seek to change the way these drugs are produced, ceasing dependence on costly production processes and expensive raw materials. C-yen intends to license a proprietary strain of bioengineered cyanobacteria and use DNA recombinant technology (1, 2, 5) to develop a cell culture process for producing lifesaving medication. C-yen will then partner with local governments and health organizations to scale the production of this desirable product from the laboratory to local manufacturing plants in countries where HIV is most prevalent, and care is least affordable.

Our team of scientist and engineers will provide technical training and support to local production teams and onsite support to help their partners autonomously produce medication while charging licensing fees and royalties as a source of income. C-yen will seek initial funds for early research and development from non-profit organizations and Angel investors dedicated to the cause of HIV. Eventually, however, C-Yen's vision is to become self-sustaining by collecting licensing and royalty fees as the source of income for sharing our proprietary bacteria strain, cell culture, and purification process with local governments and health authorities based on these partnerships. We plan to recruit an expert team of scientists and engineers to engineer the cyanobacteria strain and develop the cell culture and purification process that significantly lowers the cost of producing the medication. We will then hire a team of lawyers to patent this intellectual property and to draw up legal contracts with potential partners for licensing the manufacturing process. Additionally, C-yen plans to recruit board members who will reach out to organization and local government health for securing funding and be liaisons for beginning partnership with the government and health authorities in the countries C-yen plans to launch its production. C-yen will launch a low-cost manufacturing process in low income countries where HIV is an epidemic and affordability is a major concern.