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Inventors

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Invention Description

The development of sustainable biofuels has gained significant support because of the prospect of global climate change, energy shortages, and petroleum supply constraints. Microalgae and cyanobacteria are efficient at converting solar energy into fuels; however, their potential biofuel productivity depends on their biomass.

It would be a significant advantage therefore, to have a cyanobacteria that could continuously secrete free fatty acids. This would avoid a number of energy-intensive steps in biomass processing.

Researchers at the Biodesign Institute of Arizona State University have developed methods in the cyanobacterium Synechocystis so as to overproduce and secrete free fatty acids. These methods also improve both the quantity and quality of fatty acids produced.

Intellectual Property Status: Patent Pending

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Potential Applications

- **Biofuels**
- **Bioplastics**

Benefits and Advantages

- The cyanobacteria is not consumed when producing fatty acids
- Continuous production of fatty acids at a controllable level
- Cyanobacteria growth is renewable and efficient
- Photosynthetic microorganisms do not compete with the food industry