

# Precision Photosynthesis™ Technology

Deciphering Ideal Light Conditions To Optimize Bioproduction



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## Microalgae Library Review

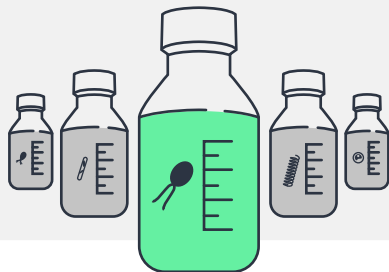
Using our microalgae library database, Provectus Algae selects a species for biomanufacturing target products based on key characteristics and predictive models.

Genomics

Transcriptomics

Proteomics

Metabolomics



Species Selection

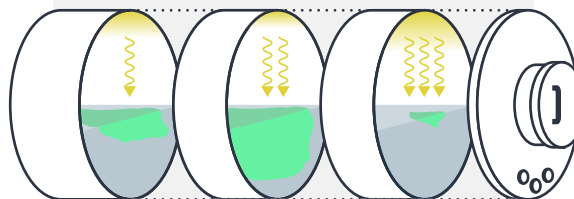
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## Controlling Gene Expression With Light

### A. Optimizing Cell Growth

With Precision Photosynthesis™ and bespoke photobioreactors, Provectus Algae can manipulate light conditions to control gene expression, optimizing cell growth and biomass.

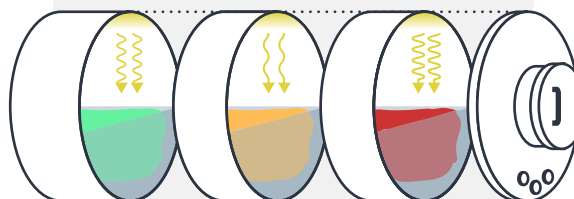
Light Recipe 1    Light Recipe 2    Light Recipe 3



### B. Tuning Target Production

In addition, Provectus Algae can apply Precision Photosynthesis™ to increase the expression of specific target molecules and decrease problematic byproducts.

Light Recipe 4    Light Recipe 5    Light Recipe 6



Product A    Product B    Product C

Automated Data Collection & Storage

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## AI-Driven Analysis

Provectus Algae's AI and automation systems collect, deposit, and analyze bioprocess data on cloud infrastructure. Teams can remotely scrutinize this information to select ideal light recipes, make decisions, and further optimize biomanufacturing conditions.

These results are then used for machine learning refinement to improve the predictive capabilities of our microalgae library database.



Refine & Update

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