

"Agreement One" - used in reflection

Stevioside synthesis by *Saccharomyces cerevisiae*

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| <p>1. What kind of work are you doing?</p> | <p>Stevioside synthesis by <i>Saccharomyces cerevisiae</i></p> |
| <p>2. Why are you doing this work? Where did you get inspired?</p> | <p>Stevioside, as a new natural sweetener, has been favored by people and has been widely used. But because stevioside is a new sweetener, people have not fully grasped its use. As a chassis organism with excellent synthetic biology, it is feasible to produce stevioside on a large scale by yeast.</p> |
| <p>3. What is current status? What information do you have?</p> | <p>Stevioside is extracted by soaking dried leaves of <i>Stevia rebaudiana</i> in water, separating liquid from leaves and stems through filtration, and further purifying by</p> |

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| | <p>water or food-grade alcohol, which is a completely traditional plant extraction method. Thus, we can get a pure natural and sweet sweetener, stevioside, which can be eaten daily but will not affect the blood sugar level.</p> |
| <p>4. The impact this work may have on the world, consider the following:</p> <p>Society;</p> <p>Economy;</p> <p>Environment;</p> <p>Morality;</p> <p>Safety;</p> <p>Others.</p> | <p>Society: Obesity has increasingly become a common problem of mankind. The large-scale application of sugar-free sweeteners may provide a solution to the problem of obesity in humans.</p> <p>Economy: Biosynthesis of sugar-free sweeteners may have a profound impact on the whole food industry,</p> |

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| | <p>with broad commercial prospects and huge economic effects.</p> <p>Environment:: In the production of traditional stevioside, ion exchange and large-scale use of macroporous resins have brought heavy burden to the environment.</p> <p>Safety: A large number of toxic preservatives have been added to the traditional stevioside production.</p> <p>Yeast biosynthesis is relatively safe.</p> <p>Morality: - N/A</p> |
| 5. Adjustments based on feedback | <p>Stevioside synthesis by <i>Saccharomyces cerevisiae</i> is of great significance. Transferring plant genes</p> |

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| | <p>into fungi and increasing yield and extraction is a relatively difficult task in the short term. At present, large companies have carried out this research and made significant progress.</p> |
| 6. The result | <p>Continue to focus on relevant directions as a long-term research alternative.</p> |