Non-GMO Maltotriose-Consuming Strains of Saccharomyces eubayanus

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The Wisconsin Alumni Research Foundation is seeking commercial partners interested in developing the first maltotriose-consuming strains of S. eubayanus, a novel cold-tolerant brewing yeast.

Overview

Saccharomyces eubayanus is the cold-tolerant parent yeast of the lager brewing yeast *Saccharomyces pastorianus*. In recent years there has been considerable interest in brewing with pure strains of *S. eubayanus*. However, all known wild strains lack the ability to consume maltotriose. Therefore, beers produced with pure *S. eubayanus* retain a sweet taste and remain low in alcohol content, two traits that are undesirable for commercial success.

The Invention

UW-Madison researchers have produced maltotriose-consuming strains of pure *S. eubayanus* by repeatedly passaging wild strains for hundreds of generations in 0.1% glucose and 2% maltotriose, or 2% maltose. After directed evolution, some strains evolved the ability to consume maltotriose as the sole carbon source. This trait has been shown by the researchers to be stable and genetically heritable, and it is likely encoded by a single genetic locus.

Applications

- Novel brewing yeast that is cold-tolerant

Key Benefits

- These strains are descendants of the wild *S. eubayanus* strain that is the closest relative of the lager yeasts.
- No pure strains of *S. eubayanus* that consume maltotriose exist

Additional Information

For More Information About the Inventors

- Christopher Hittinger

Tech Fields

- Animals, Agriculture & Food : Food ingredients & additives
- Animals, Agriculture & Food : Food processing

For current licensing status, please contact Jennifer Gottwald at jennifer@warf.org or 608-960-9854