Farber Pham *Diastaticus* Medium

A selective medium for detection of beer yeast spoilage

Lead Inventor

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A new microbiological medium for the detection of *Saccharomyces cerevisiae* var. *diastaticus* has been invented at Saint Joseph's University.

Saccharomyces cerevisiae var. *diastaticus* is a wild yeast contaminant which represents a major beer spoilage threat. Product contamination has led to costly product recalls as infection may lead to off-flavors, over-attenuation, and over-carbonation, thus causing gushing beer, exploding packages, or non-compliance with reporting of Alcohol by Volume.

This re-fermentation by diastaticus is caused by the secretion of a glucoamylase normally absent in brewer's yeast. When present in beer, glucoamylase catalyzes the hydrolysis of unfermented polysaccharides, thus enabling re-fermentation in the package.

FPDM (Farber Pham Diastaticus Medium) is a novel medium formulation that is selective for all diastaticus strains tested while preventing growth of brewing yeast strains. It is effective as a solid agar medium for traditional plating or as a broth for enrichment culture.

FPDM has been successfully used for the following applications:

- Detection of diastaticus contamination of beer through traditional sample plating on FPDM agar, with samples sources including, but not limited to, fermenting beer, finished beer, yeast slurries, and environmental swabs.
- Detection of low diastaticus contamination in yeast slurries through enrichment in FPDM broth.
- Isolation of diastaticus in brewery samples which tested positive via rapid, PCR-based methods but negative on all traditional culture media.

Further, conventional qPCR tests are restricted to a singular diastaticus gene which limits the scope of detection. FPDM provides a broad-spectrum assessment that can detect contamination with strains that test negative via qPCR.

Intellectual Property

US 11,667,883 B2, issued June 6, 2023

CA 3093063 A1, published September 2019

Collaboration or Licensing Opportunity

Actively seeking licensee for commercialization.

References and Publications

Farber, M. Development of a selective medium for detection of *Saccharomyces cerevisiae* var. *diastaticus* in the brewery. Proceedings of the ASBC. Brewing Summit 2018.

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