

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

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CA 3093063 A1, published September 2019.

Collaboration or Licensing Opportunity

Saint Joseph's University is actively seeking a licensee for commercialization.

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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