brewSTAT Powered by Veriflow®

SACCHAROMYCES DIASTATICUS

Game-Changing Suite of Detection Tools

Sample to Result in as Little as 4 Hours — Empowering a Proactive Approach to Quality at Your Brewery

THE CHALLENGE

Lack of Detection Tools Combining Specificity, Speed and Accessibility

You take every precaution to maintain the quality of your brews – and test as you go to ensure your standards are met. One major challenge is the lack of immediate, accurate and actionable test information throughout the brewing process. Traditional testing methods are dated, and limited by wait times and the inconclusive results of plating, or the expense and complexity of conventional molecular technologies. These limitations make it impossible to address spoilage organisms in real-time – and can result in facility contamination, production inefficiencies and holds, or shipping beer at risk.

THE TECHNOLOGY

Proven Platform Delivers Speed, Accuracy and Sensitivity

Invisible Sentinel brew products are powered by Veriflow – a game-changing platform technology that combines proven diagnostic principles for microbial detection and innovative, first-in-class scientific approaches. Veriflow technology offers unparalleled performance with no compromise on ease-of-use or affordability.

Veriflow DNA Signature Capturing Technology	
DNA Amplification	Proprietary reagents eliminate need for sample purification
DNA Identification	Proprietary DNA signature detection specifically targeting beer spoilers
Sample Preparation	No enrichment or purification steps required
Visualization of Results	Proprietary vertical flow mediated visualization of results for easy interpretation

brewSTAT FOR *SACCHAROMYCES DIASTATICUS*

Early and Accurate Detection of a Problematic Yeast

There are a variety of yeast and bacteria that act as beer spoilers and can cause unintended fermentation. *Saccharomyces diastaticus*, a wild yeast, presents a challenge for brewers and quality personnel due to its persistence in the environment, evasiveness, and ultimately, its penchant for spoiling beer and risking unstable packaged product.

An incident of *Saccharomyces diastaticus* in your brewery can cause the need for a massive cleanup of the brewery as well as a wide scale recall. The potential implications of *diastaticus* contamination, makes it an important beer spoiler to proactively monitor. Detection methods such as traditional culturing and sensory perception can often be inaccurate and inefficient.

brewSTAT is the only *Saccharomyces diastaticus* detection tool with accuracy, unmatched ease of use and easy-to-interpret data available in as little as 4 hours from sample collection.

- Early detection can allow for aggressive remediation
- Allows traceability to the point of contamination
- Prevents processing, bottling and shipping at risk
- Protects against recall of tainted beer

brewSTAT Performance Specifications		
Sensitivity (LOD)	Limit test (10 cells/ml)	Zero tolerance test
Time to Results	4 hours	28 hours
Matrix Compatibility	Beer, yeast slurry, colony PCR, environmental	
Assay Configuration	Qualitative	
Target Selection	*Saccharomyces cerevisiae var diastaticus* species	
Specificity	99.9% accurate for *S. diastaticus*	

INVISIBLE SENTINEL®

"Early and accurate detection of Saccharomyces diastaticus is integral to avoid unintended secondary fermentation, but more importantly for brand management and the end consumer's safety. Differentiating this wild yeast from typical brewing yeast is a challenge with traditional methods, and PCR methods can help provide a sensitive and conclusive means for identifying an issue before it's too late."

– Christopher O'Connor
Director of Quality/ Technical Brewing
Sleeping Giant Brewing Company

TEST PROTOCOL

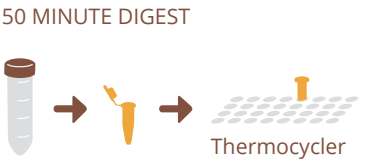
Results in as Little as 4 Hours with Less Than 10 Minutes Hands-on Time

COLLECT

Collect a homogenous sample and centrifuge. Resuspend sample using provided proprietary Buffer A.

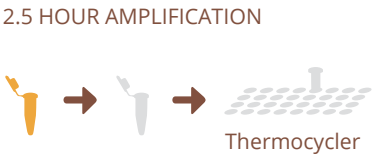
DIGEST

Transfer resuspended sample into provided DIGEST reagent tube. Place tube into Thermocycler and run program.



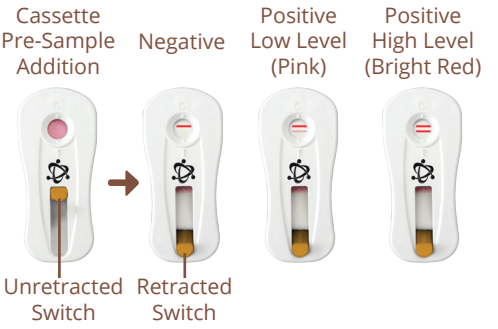
AMPLIFY (PCR)

Transfer sample from DIGEST reagent tube into provided PCR reagent tube. Place tube into Thermocycler and run program.



ANALYZE

Remove PCR Tube from Thermocycler and add proprietary Buffer B. Dispense PCR Tube contents onto test cassette window. Wait 3 minutes and retract test cassette switch to reveal test results. One line indicates negative result, two lines indicates semi-quantitative positive results. Use Signal Quantification Card or Veriflow Reader for precise quantification.



ITEM #	DESCRIPTION	SIZE
IS1057	brewSTAT Complete Test System	1 Kit, 24 tests
IS0904	Veriflow Loading Tray	1 Unit
ISTC002	Veriflow Thermocycler	1 Unit
ISRD001	Veriflow Reader	1 Unit

ADDITIONAL TOOLS FOR YOUR BREWERY

brewPAL Powered by Veriflow®
For Hop-Resistant *Pediococcus* and *Lactobacillus*

brewDEK Powered by Veriflow®
For *Brettanomyces/Dekkera* species

brewBRUX Powered by Veriflow®
For *Brettanomyces Bruxellensis*

brewMAP Powered by Veriflow®
For *Megasphaera & Pectinatus*

brewLAP Powered by Veriflow®
For Lactic Acid-Producing Microbes

For more information or to place an order, please contact Invisible Sentinel at 215.966.6118 or www.invisiblesentinel.com

Invisible Sentinel, a global molecular solutions company, is dedicated to providing first-in-class microbial detection tools. The company's core technology, Veriflow, is a patented, game-changing platform that integrates molecular diagnostics, antibody design, and immunoassays. Veriflow has been applied across multiple industries including food safety and beverage quality.

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