

Maximizing wine quality from this year's harvest

Proactive monitoring for wine spoilers from juice to bottle

On-site PCR testing to detect *Brettanomyces*, *Pediococcus* and *Lactobacillus* with sample to results in under 4 hours

Long days and tremendous activity in and around the winery are the hallmarks of harvest season. The time is ripe for organisms to make their way into the winery and begin to flourish in tanks and barrels. Juice and young wines that have not received SO₂ additions or finished malolactic fermentation are especially vulnerable, and warm temperatures can boost the chances of unwanted microbes settling in and impacting wine quality. The threat is particularly concerning in high-risk wines at elevated pH levels. Early detection is critical - allowing for early, effective and efficient management of the situation.



For *Pediococcus* & *Lactobacillus*

- Identifies and quantifies the presence of *Lactobacillus* and *Pediococcus* species that can contribute to stuck or sluggish fermentations
- Accurate and sensitive to spoilage organisms even at low threshold levels in grape juice and young wines
- Enables prompt response to rapidly-producing bacteria that can impact wine quality



For *Brettanomyces*

- Detects and quantifies both active and VBNC *Brettanomyces*
- 100% inclusive of 49 known isolates of *Brettanomyces bruxellensis*
- Accurate and sensitive across all stages from harvest to bottling
- Ability to isolate tainted lots early to manage the presence of Brett and minimize the risk of cross-contamination

vinoBRETT and vinoPAL, powered by Veriflow, make it possible to conduct routine, proactive testing throughout the wine-making process to obtain accurate information about the presence of spoilage organisms.



Benefits of vinoBRETT in the winery

Early in-house monitoring in wines during and just after fermentations, which was impossible to do before, allows us to effectively mitigate issues and avoid potential problems later in the process."

— Tod Mostero, Winemaker, Dominus Estate

Results for vinoBRETT and vinoPAL in under 4 hours



Proactive monitoring in young wines allows winemakers to implement early interventions

The robust Veriflow platform delivers accurate and sensitive detection in juice and young wines through DNA Signature Capturing Technology. The assays, vinoBRETT and vinoPAL, enable targeted organism detection and are not affected by phenolic compounds or other inhibitors that may be present in the early stages of winemaking. Early detection, at 10 cell/ml or less, arms the winemaker with information to plan for appropriate interventions only in the lots or tanks that are affected.

Tips for implementation at the winery

vinoPAL Powered by Veriflow®

Lactic acid bacteria are especially concerning at harvest time, often leading to stuck or sluggish fermentations. These microbes have the ability to quickly multiply and cause problems in a matter of days. Rapid identification of lactic acid bacteria with vinoPAL during malolactic fermentation will allow winemakers to pursue targeted use of a reduction in cold soak or additive enzymes in the contaminated lots to assure the wine develops as intended.

vinoBRETT Powered by Veriflow®

Brettanomyces can enter the winery from many sources, including on the fruit itself. Early identification in juice, or immediately following fermentation, will allow the winemaker to identify hotspots and prevent cross-contamination before wine moves into barrels. Ongoing monitoring and interventions, such as temperature modulation or additional SO₂, can mitigate the potential for downstream proliferation that can lead to sensory effects impacting wine quality.

Using vinoPAL during fermentation:

"Identifying the presence of *Lactobacillus* as soon as possible is a critical concern for me. This organism can multiply rapidly, and before you know it the fermentation can become sluggish, with possibility of high volatile acidity being formed. Early detection with vinoPAL will allow us to intervene quickly and prevent the loss of wine quality."

— Eric Baugher, Vice President of Winemaking, Ridge Vineyards

For more information on how vinoBRETT and vinoPAL can help preserve the quality of your wines during harvest season with affordable on-site detection of spoilage organisms, please contact us at invisiblesentinel.com.

ITEM #	DESCRIPTION	SIZE
IS1014	vinoBRETT Complete Test System	1 Kit, 24 Tests
IS1033	vinoPAL Complete Test System	1 Kit, 24 Tests
ISTC002	Veriflow Thermocycler	1 Unit
ISRD001	Veriflow Reader (Optional)	1 Unit

All test kits include Mastermix Reagents, Cassettes, Buffers