



VINEO™ *Brettanomyces* test

Keeping the Pleasure Intact

- **Specificity:** targets the spoilage yeast *Brettanomyces bruxellensis*
- **Safety:** controls the risk of ethylphenol production
- **Speed:** provides results in less than 8 hours
- **Follow-up:** throughout the wine elaboration process, starting with fermenting musts, through the maturation phase to bottling
- **Easy:** created to adapt to all oenology analysis laboratory needs
- **Quantitative:** can be used to quantify the *Brettanomyces bruxellensis* risk and to adapt the level of prevention and reaction



Tests May Be Consumed Without Moderation

BIO-RAD

Microbiology

Microbial flora play a major role in the wine-making process. They are responsible for the proper progression of the fermentation stages.

Risk

Brettanomyces bruxellensis is a yeast responsible for the presence of 4-ethylphenol and 4-ethylguaiacol in wine. It causes serious financial losses and can cause spoilage of the wine during the elaboration process. This spoilage is increasingly common. Its presence in wines is hard to detect using the conventional culture methods, which are long and non-specific.

Need

Fast, specific, early detection of the yeast during the wine elaboration process enables the oenologist and producer to take preventive measures and to eliminate it before the phenolated aspect appears that is characteristic of spoilage due to this yeast. Compared with the traditional microbiological method and non-specific methods, molecular biology (PCR) provides solutions for detection with high speeds, sensitivity and specificity.

Diagnosis of this yeast's presence will make it possible to determine the wine's risk level and how the risk will evolve over time. This risk varies with the level of contamination.

Quantification

Regular monitoring is recommended in all cases. It is important to follow the evolution of *Brettanomyces bruxellensis* in the wine.

VINEO™ *Brettanomy*test PCR Kit (cat # 354-8101) is a quantitative test for the specific detection of *Brettanomyces bruxellensis* in wines and fermenting musts using the real-time polymerase chain reaction technique (RT-PCR). A specific *Brettanomyces bruxellensis* DNA sequence is amplified and detected simultaneously using a fluorescent probe. Implementing this test provides a quantitative result less than 3 hours after extracting the DNA, using VINEO™ Extract DNA Kit (cat # 354-8100). The analysis software adapted to this test, CFX Manager™ Industrial Diagnostic Edition, uses an automatic, quantitative analysis to measure the risk of *Brettanomyces bruxellensis* in the wine sample analyzed. An interpretation of the risk level is thus proposed to the user. It is related to the number of CFU.ml⁻¹ (Colony Forming Units) detected in the wine:

- Negative
- Weak population, controlled risk
- Critical population to be monitored
- Very high population, risk of producing volatile phenols

This test is based on the amplification, detection and quantification of DNA sequences using the real-time PCR technique. It uses *Brettanomyces bruxellensis* DNA-specific primers and a probe. Detection and analysis of results are optimized for the user with a Bio-Rad thermocycler for real-time PCR, such as the MiniOpticon™ or the CFX96™.

Key Benefits:

- Easy
- Adapted to oenology analysis laboratories
- Ideal solution for detecting *Brettanomyces bruxellensis* before volatile phenols appearance
- A reliable prevention tool

Protocol

Sampling

- Fermenting musts
- Maturing wine
- Wine ready for bottling

DNA Extraction

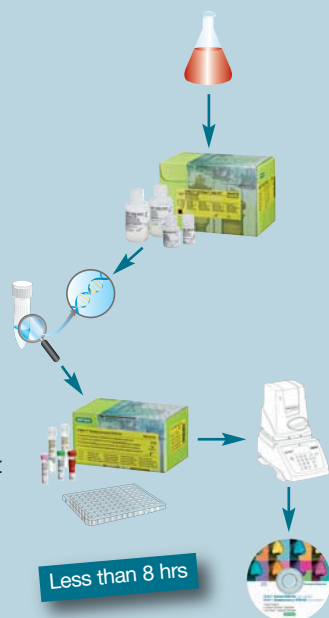
VINEO™ Extract DNA Kit

DNA Amplification with real-time PCR

VINEO™ *Brettanomyces* PCR Kit

Analysis & Interpretation

CFX Manager™ Software IDE



Key Benefits:

- Ready-to-use kits
- Simple protocol
- Easy control
- High DNA extraction yield
- High sensitivity
- PCR precision
- Automatic quantitative analysis of results

Ordering Information

Catalog #	Description	Packaging	Comments
MiniOpticon™ System			
359-3995	MiniOpticon™ real-time PCR detection system, including optical housing, MJ Mini thermal cycler, 48-well sample block, analysis software		
CFX96™ System			
359-3990	Industrial Diagnostic CFX96™ real-time PCR detection system, 96 wells		
359-3893	CFX Manager™ Software, Industrial Diagnostic Edition		
Accessories			
TLS-0851 ^{1,2}	Low-profile 0.2 ml 8-tube strips without caps, white	120 strips (960 tubes)	
TCS-0803 ^{1,2}	Optical flat 8-cap strips, for 0.2 ml tubes and plates, ultraclear	120 strips (960 tubes)	
MLL-4851 ^{1,2}	Multiplate low-profile 48-well unskirted PCR plates, white	50 plates	Specific for MiniOpticon™ System
MLL-9651 ^{1,2}	Multiplate low-profile 96-well unskirted PCR plates, white	25 plates	Specific for CFX96™ System
<small>(1) For items ordered in North America, the following catalog #s apply: MLL-9651XTU, MLL-4851XTU, TLS-0851XTU, TCS-0803XTU (2) For items ordered in Europe, the following catalog #s apply: 35MLL9651, 35MLL4851, 35TLS0851, 35TCS0803</small>			
VINEO™ <i>Brettanomyces</i>			
354-8101	VINEO™ <i>Brettanomyces</i> PCR Kit	96 tests	
354-8100	VINEO™ Extract DNA Kit	96 tests	

BIO-RAD

**Bio-Rad
Laboratories, Inc.**

*Life Science
Group*

Web site www.bio-rad.com **USA** 800 4BIORAD **Australia** 61 02 9914 2800 **Austria** 43 (0) 1 877 89 01 **Belgium** 09 385 55 11 **Brazil** 55 21 3237 9400
Canada 1 800 268 0213 **China** 86 21 6305 2255 **Czech Republic** 420 241 430 532 **Denmark** 44 52 10 00 **Finland** 09 804 22 00 **France** 33 1 47 95 62 59
Germany 49 (0) 89 318 84 0 **Greece** 30 210 777 4396 **Hong Kong** 852 2789 3300 **Hungary** 36 1 455 8800 **India** 1-800-180-1224
Israel 03 951 4127 **Italy** 39 02 216 091 **Japan** 03 5811 6270 **Korea** 82 2 3473 4460 **Latin America** 305 894 5960 **Mexico** 52 555 488 7670
The Netherlands 31 318 540 666 **New Zealand** 64 9 415 2280 **Norway** 23 38 41 30 **Poland** 48 22 331 99 99 **Portugal** 351 21 472 7700
Romania 4021 210 1703 **Russia** 7 095 721 1404 **Singapore** 65 6415 3188 **South Africa** 27 11 442 8508 **Spain** 34 91 590 5200 **Sweden** 46 8 555 12700
Switzerland 41 (0) 61 717 95 55 **Taiwan** 886 2 2578 7189 **Thailand** 662 651 8311 **United Kingdom** 44 20 8328 2000 **Vietnam** 848 823 6757