


## White Labs Certificate of Quality Assurance

Brewery:	
Test Date(s)	
Yeast Strain Number:	
Yeast Lot Number:	
Tests Performed By:	
Tests Performed	Results
Viability	
pH	
Cell Morphology	
Wild Yeast (LCSM)	_____per 1 million yeast cells
Anaerobic Bacteria (HLP)	_____per 10 million yeast cells
Aerobic Bacteria (WLD)	_____per 1 million yeast cells
 Yeast Order Tracking Software <a href="http://www.yeastman.com">www.yeastman.com</a>	
Comments:	

### Confidentiality

White Labs is an independent laboratory, and confidentiality is maintained with all customers, including yeast selection, laboratory analysis, and consulting.

### Yeast Guarantee

White Labs goal is to become the best yeast production company in the world. We guarantee that each White Labs Liquid Yeast culture supplied meets our strict quality control standards. These QC standards are outlined on the Certificate of Quality Assurance supplied with the yeast and can also be found on our website. The QC standards define our requirements for purity and viability. We want you to have the best fermentation every time. If not, please contact us and we will work with you to make it right. White Labs is not responsible for other ingredient costs, beer costs, labor, etc, but we stand behind our product and our promise to you is that each batch is rigorously tested before it is released to you.

### Explanation of Quality Control Tests

Yeast is held for one week following production in order to clear the QC process. We plate the yeast on different media to assure culture purity. We also examine cell shape, test viability, and cell count. Additional samples are taken *after* packaging, and are stored at White Labs to facilitate fermentation troubleshooting. All of our tests adhere to American Society of Brewing Chemists' guidelines, where applicable.

#### Viability

We use a citrate methylene blue stain, which will stain dead cells. We ensure that viability is over 95% before we ship yeast.

#### pH

A measure of the acidity of the yeast solution. The range will usually be between 3.5-4.5.

#### Lin's Cupric Sulfate Medium(LCSM)

This medium utilizes cupric sulfate to inhibit the growth of brewers yeast and ensures no contamination of non-*Saccharomyces* wild yeast. If any growth is detected on these plates at White Labs, the yeast is not shipped.

#### Hsu's Lactobacillus and Pediococcus Medium (HLP)

This medium is used to look for the presence of *Lactobacillus* and *Pediococcus*. These bacteria are anaerobic, heat sensitive bacteria, and are called 'beer spoilers' because they are most often associated with post wort production contamination. If any growth is detected in the test tubes at White Labs, the yeast is not shipped.

#### Wallerstein Differential (WLD)

This medium is used to check for bacteria and *Saccharomyces*-type wild yeast. Most aerobic bacteria will grow on these plates, and some anaerobic bacteria also display growth. Bacterial contamination seen on these plates is termed 'wort bacteria' because they are most often associated with wort contamination, usually doing most of their damage before the onset of fermentation. If any growth is detected on these plates at White Labs, the yeast is not shipped.



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