

EXP-483



Trial Guidelines

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EXP-483 FOR NORTHERN IPA

TRIAL INTRODUCTION

If you are reading this document, you are about to embark on an exciting journey with us to explore what the Northern IPA Style has to offer. Welcome, we are glad to have you!

Our goal is to play a role in the continuing evolution of modern IPA styles. To achieve this goal, we are launching a new limited edition yeast strain (EXP-483) to complement a new beer style called Northern IPA that is distinct from other popular IPA styles. We are recruiting select trial partners who are interested in brewing a beer using EXP-483 to help define the new Northern IPA style and promote these efforts together with us.

With your help, and along with other global trials, we will coordinate the release during spring 2025 of several Northern IPA beers brewed with EXP-483. We will collaborate with you for marketing promotions to create excitement about this new strain and the Northern IPA beer style.

This document is confidential and is intended for Breweries performing trials related to the yeast EXP-483, produced by Lallemand. Please do not share externally.

EXP-483 STRAIN FOR NORTHERN IPA STYLE

Lallemand Brewing has selected a strain of *Saccharomyces cerevisiae* (EXP-483) targeted broadly at IPA styles, and particularly the new Northern IPA style. Through our R&D and strain selection process, we have demonstrated that EXP-483 has the following characteristics:

- Robust, and consistent fermentations
- Tolerant to high gravity
- Medium to high attenuation
- Wide temperature range (12-30°C)
- Fruity aroma profile
- Good biotransformation potential
- Low to medium haze potential

Through these trials, brewery partners will help to define a new style of IPA to be known as “Northern IPA” and assess the potential for the EXP-483 strain to brew beers within this style.

Guidelines for the Northern IPA style are summarized to the right and described in detail in a separate document provided. The brewer is free to develop a unique recipe according to these guidelines.

Northern IPA Style Guidelines

| | |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| COLOR | Straw to Pale Gold |
| CLARITY | Relatively clear |
| PERCEIVED MALT AROMA AND FLAVOR | Low malt intensity, no colored malts, limited use of adjuncts |
| PERCEIVED BITTERNESS | Medium |
| PERCEIVED HOP AROMA AND FLAVOR | High to very high exhibiting a wide range of attributes including floral, piney, citrus, fruity (berry, tropical, stone fruit and other). |
| FERMENTATION CHARACTER | Medium fruity esters with some biotransformed yeast character |
| BODY | Low to Medium |
| MOUTHFEEL | Smooth with a perception of bitterness giving way to fruit aromatics |
| ORIGINAL GRAVITY (°PLATO) | 1.055-1.074 (13.5-18 °Plato) |
| APPARENT EXTRACT/ FINAL GRAVITY (°PLATO) | 1.007-1.014 (1.5-3.6 °Plato) |
| ALCOHOL BY VOLUME | 6.2-7.3% |
| BITTERNESS (IBU) | 30-60 |
| COLOR (EBC) | 4-10 |

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TRIAL DESCRIPTION AND OBJECTIVES

Trial Goals

1. Assess the fermentation performance and flavor characteristics of beer brewed with EXP-483 according to the Northern IPA style guidelines.
2. Create excitement about the Northern IPA style through beer name, description, and marketing communications from both the trial partner brewery and Lallemmand.

Preparation and Storage

Pitch yeast directly into beer wort according to your recipe. If direct pitching is not feasible, rehydrate the yeast by suspending in 10x its weight of clean, sterile water prior to adding to wort or beer. Store product in a cool and dry place prior to use.

Beer Style & Recipe:

Beer should respect the Northern IPA style guidelines provided.

Pitching Rate:

Use a pitching rate of 50-100g/hL, depending on the recipe and fermentation temperature.

Fermentation temperature:

While the recommended temperature range for this strain is broadly from 12-30°C, we request that for this trial the fermentation temperature should be between 12-16°C to respect the Northern IPA style guidelines.

Filtration or Clarification

Use filtration or finings as needed to achieve a beer that is clear, or with slight chill haze.

Marketing and Promotion

We enjoy seeing and sharing trial partner beer photos or trial photos on social media. Whenever possible, tag us in your communications so we can support your communications efforts: @lallemandbrewing

TRIAL FEEDBACK

The brewer shall provide feedback about the Northern IPA style and EXP-483 yeast strain by completing the following survey **within 1 month after the brew date**.

All information exchanged as part of this trial is confidential. Lallemmand reserves the right to use data from these trials as part of an average data set, without the brewery name, in technical documents, presentations and marketing material. Permission will be requested prior to any public use of testimonials or recipes that include the brewery name.



Scan to Complete Survey

<https://forms.office.com/r/NWvXik1pSZ>

EXP-483



Tech Data Sheet

EXP-483 FOR NORTHERN IPA

GENERAL DESCRIPTION

EXP-483 has been characterized in our lab as having robust fermentation performance over a broad temperature range. It has good stress tolerance and is well suited for high gravity fermentations. It produces a fruity aroma profile with good biotransformation potential. Medium to high attenuation with good flocculation and low to medium haze potential.

Strain Characteristics

| | |
|-------------------|---------------------------------|
| SPECIES | <i>Saccharomyces cerevisiae</i> |
| DRY MATTER | > 96% |
| POF | Negative |
| STA1 | Negative |
| ATTENUATION | Medium to High |
| TEMPERATURE RANGE | 12 - 30°C |

Microbiological Specifications

| | |
|-------------------|-----------------------------------------|
| LACTIC BACTERIA | < 10 ³ CFU/g |
| ACETIC BACTERIA | < 10 ³ CFU/g |
| COLIFORMS | < 100 CFU/g |
| <i>E. COLI</i> | Absent in 1g |
| <i>S. AUREUS</i> | Absent in 1g |
| <i>SALMONELLA</i> | Absent in 25g |
| MOULDS | < 10 ³ CFU/g |
| WILD YEAST | < 10 ² CFU/g (lysine method) |

Heavy Metals

| | |
|---------|-----------|
| LEAD | < 2 mg/kg |
| MERCURY | < 1 mg/kg |
| ARSENIC | < 3 mg/kg |
| CADMIUM | < 1 mg/kg |