

The wide variety of selected natural yeast reflects biodiversity, yet this biodiversity is still underexploited, despite the large number of species and subspecies (other than *Saccharomyces cerevisiae*) that are present in the grape must. During spontaneous fermentation, the microbial population dynamics result in a succession of enzyme activity that undoubtedly contribute, positively or negatively, to the aromatic complexity and diversity of wine. Lallemand's R & D team have researched use of the non-conventional yeast such as *Torulasporea delbrueckii* used in sequential inoculation with a *Saccharomyces cerevisiae*; it opens up a new range of possibilities for winemakers.



ORIGIN AND APPLICATION




BIODIVA™ – to enhance aroma and mouthfeel complexity in white and red wines.

BIODIVA™ is a pure culture of *Torulasporea delbrueckii*, selected for its properties to enhance wine aromatic and mouthfeel complexity. Used in sequential inoculation with a compatible selected *Saccharomyces cerevisiae* yeast studied and recommended by Lallemand, **BIODIVA™** will help control development of the wine's aromatic complexity by favouring the perception of certain esters without overwhelming the wines.

Due to its low volatile acid production and its tolerance to osmotic shock, **BIODIVA™** is particularly adapted for fermenting late harvest and ice wines.

Highly recommended for Chardonnay and dessert style/ botrytised wines.
Has also been used on Pinot Noir with success.

MICROBIAL AND OENOLOGICAL PROPERTIES

- Recommended for white, red and dessert wine production.   
- Species: *Torulasporea delbrueckii*
- The temperature of the juice, must be greater than 16°C at inoculation for fermentation to start.
- Lag phase is moderate, unless temperature of juice/must is below 16°C.
- When used for fermenting high Baume sweet wine, the use of **Go-Ferm Protect Evolution®** is recommended to protect against osmotic shock.
- Volatile acidity production: very low.
- Very good compatibility with malolactic fermentation
- To be used in sequential inoculation with a suitably paired *Saccharomyces cerevisiae*. Refer to next page for a list of recommended *S. cerevisiae* yeasts to pair with **BIODIVA™**
- When used in fresh juice cider, **BIODIVA™** can ferment to completion without a sequential yeast complement.

INSTRUCTION FOR USE

TO BE USED IN SEQUENTIAL INOCULATION AS FOLLOWS

*Before inoculation, make sure that the free SO₂ level is lower than 15mg/L and the temperature of the juice /must is greater than 16°C.

1st Inoculation: **BIODIVA™**

Inoculate at 25g/hL: Rehydrate the yeast in 10 times its weight of water at 30°C. After 15 minutes, stir gently. To help the rehydrated yeast acclimatise to the cooler juice temperature and avoid cold shock, slowly combine an equal amount of juice with the yeast rehydration solution (this step may need to be repeated), until the yeast suspension is within 10°C of the juice to be inoculated. Total rehydration time should not exceed 45 minutes. Allow the ferment to proceed until the sugar has reduced by approximately 2° Brix, and then over-seed with a suitably paired *S. cerevisiae* yeast (2nd inoculation).

INSTRUCTION FOR USE (cont'd)

2nd Inoculation: *Saccharomyces cerevisiae* – Refer to table below for a list of suitably paired *S. cerevisiae* yeast

After a density drop of approximately 2 Brix, proceed to the second inoculation with 25g/hL of one of the recommended *S. cerevisiae* yeast strains. Follow the classical rehydration acclimatisation and handling protocol for *S. cerevisiae*.

COMPATIBLE *SACCHAROMYCES CEREVISIAE* YEASTS

The final sensory outcome of **BIODIVA™** is the contribution from both the non-conventional yeast and the paired *Saccharomyces cerevisiae* yeast. Lallemand has extensively researched and trialled many combinations of *T. delbrueckii* and *S. cerevisiae*. We have found that there are compatible and also incompatible yeast, the definitions of which are:

Incompatible - Incompatible yeast have been defined as the paired *S. cerevisiae* yeast that do not have desirable fermentation kinetics. This could be due to numerous reasons such as amensalism, where the metabolites of one yeast are inhibitory to another, or due to competition, where both yeasts use the same substrates which can result in a mutually detrimental interaction.

Compatible - yeasts are defined as the paired *S. cerevisiae* yeasts that have desirable fermentation kinetics and desirable organoleptic outcomes.

Lallemand have investigated numerous yeasts but not all those in the portfolio. Hence, if you have a particular yeast you would like to use, please conduct a trial. Alternatively, contact Lallemand, as we may have feedback, not yet added to this list.

Compatible *Saccharomyces cerevisiae* yeast strains to be paired with BIODIVA™

| Yeast | Suggested Varieties | Sensory contribution |
|------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Enoferm BDX™ | Red Varieties | Enhances varietal character, mouth-feel and contributes to colour stability. |
| Lalvin ICV D254™ | Red varieties and Chardonnay | Enhanced mouth-feel due to the production of polysaccharides. In Chardonnay produces nutty aromas and creamy mouth-feel. |
| Lalvin QA23™ | White varieties | Enhances varietal characters. High terpene and thiol releaser. |
| Lalvin RC212™ | Pinot Noir and light red varietals | Enhances varietal character and contributes structure and spiciness to Pinot Noir wines. |

PACKAGING AND STORAGE

- All Active Dried Yeast should be stored dry, between 4-12°C and the vacuum packaging should remain intact.

The information herein is true and accurate to the best of our knowledge; however, this data sheet is not to be considered as a guarantee, expressed or implied, or as a condition of sale of this product.

