Selected wine bacteria must be efficient as soon as they enter the must or wine to complete malolactic fermentation. It means that they must survive and grow in the must or wines to rapidly convert malic acid into lactic acid, as well as contribute to the wine sensory profile.

Our wine bacteria MBR™ are easy to use through direct inoculation and without rehydration. They are produced under dry form (obtained by lyophilisation) and due to their high robustness and our strict quality criteria, they do not need to be transported or maintained in complicated cold storage units. They can also tolerate breaks in the cold chain, as long as the temperature does not exceed 25°C for more than 3 weeks, without damaging the efficiency (see figure below). The survival rate of the wine bacteria is greater than 90% with a guaranteed minimum of $1 \times 10^{11}$ cfu/g. The malolactic activity is maintained at 100%.

How wine bacteria cultures are prepared is crucial on how they react to different conditions. For example, a recent study done at the University of Bordeaux showed that once wine bacteria are taken outside of the wine environment to a liquid laboratory medium, their metabolism changes, and they partially lose their ability to survive in wine. When wine bacteria are produced by the MBR™ process, this ability is preserved. It was shown that by adding gradually increasing concentration of inhibitory polyphenols to the medium, the wine bacteria in MBR™ form, compared to the same bacteria in liquid cultures, had a lower mortality rate and better survival as shown in figure below.

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Moreover, throughout their long shelf life (3 years at -18°C), MBR™ wine bacteria are known to maintain their efficacy. These unique characteristics are due to MBR™ process and facilitate the work of winemakers.

Case 1: just after production at -18°C
Case 2: after 3 weeks of different breaks of cold chain (never > 25°C)
Case 3: after 3 years at -18°C
Case 4: after 18 months at 4°C
Case 5: after 9 steps of freezing/thawing (during 9 days)