

# The Antarctic yeast *Candida sake*: Understanding cold metabolism impact on wine

Ballester-Tomás, Lidia

Prieto, Jose A.

Gil, Jose V.

Baeza, Marcelo

Randez-Gil, Francisca

© 2017 Elsevier B.V. Current winemaking trends include low-temperature fermentations and using non-*Saccharomyces* yeasts as the most promising tools to produce lower alcohol and increased aromatic complexity wines. Here we explored the oenological attributes of a *C. sake* strain, H14Cs, isolated in the sub-Antarctic region. As expected, the cold sea water yeast strain showed greater cold growth, Na<sup>+</sup>-toxicity resistance and freeze tolerance than the *S. cerevisiae* QA23 strain, which we used as a commercial wine yeast control. *C. sake* H14Cs was found to be more sensitive to ethanol. The fermentation trials of low-sugar content must demonstrated that *C. sake* H14Cs allowed the cold-induced lag phase of growth to be eliminated and also notably reduced the ethanol (? 30%) and glycerol (? 50%) content in wine. Instead *C. sake* produced sorbitol as a compatible osmolyte. Finally, the inspection of the main wine volatile compounds revealed that *C. sake* produced more higher alcohols than *S. cerevisi*