



Contents lists available at ScienceDirect

International Journal of Food Microbiology

journal homepage: www.elsevier.com/locate/ijfoodmicro



Short communication

A novel molecular method for identification of *Oenococcus oeni* and its specific detection in wine

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ARTICLE INFO

Article history:

Received 9 February 2010

Received in revised form 11 June 2010

Accepted 12 June 2010

Keywords:

Oenococcus oeni

Molecular identification

16S rRNA gene

ARDRA

ABSTRACT

Oenococcus oeni is a species of lactic acid bacteria with economic interest in winemaking. Using both *in silico* and *in vitro* analyses, a molecular method was developed that allows the identification of *O. oeni* isolates and its detection from wine samples. The method is based on the amplification of 16S rRNA gene with universal primers followed by restriction with the endonuclease *FseI*, generating two fragments of 326 and 1233 bp. Among wine bacteria, the *FseI* recognition sequence is only found in the 16S rRNA gene of *O. oeni*, ensuring the specificity of the method. The use of Whatman FTA cards for DNA extraction and purification is an efficient and interesting alternative to current methods, as samples can be easily collected at wineries by a non-specialized technician, stored at room temperature and sent in a mail envelope to the analytical laboratory for processing. The proposed method, with a detection limit between 10^2 and 10^3 cfu/mL and a full turnaround time of ca. 8 h, ensures the rapid and reliable detection of *O. oeni* in wine samples during winemaking surveillance and wine quality control.

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