

**P005** Detection of lactic acid bacteria producing biogenic amines in wine by multiplex PCR assay

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All fermented foods (beer, wine dairy products, etc.) are subject to the risk of biogenic amines contamination. Wine can be an substrate for amine production for various reasons: it contains free aminoacids and it can contains decarboxylase positive micro-organisms that in favourable conditions can grow and produce these substances, principally during malolactic fermentation (MLF). MLF usually occurs shortly after the end of the primary fermentation (when the grape sugar is converted to alcohol by yeast). It is undertaken by the family of lactic acid bacteria (LAB): *Oenococcus oeni*, and various species of *Lactobacillus* and *Pediococcus*.

In our laboratory we developed a simple and fast method to detect LAB carrying aminoacid decarboxylase genes. In particular we studied histidine (*hdc*), tyrosine (*tdc*) and ornithine decarboxylase (*odc*) genes in PCR multiplex assays. We analysed 150 strains of lactic acid bacteria isolated from wine and must. Only one strain of *Lactobacillus hilgardii* was shown to possess the *hdc* gene, whereas four strains of *Lactobacillus brevis* had the *tdc* gene. None of the *Oenococcus oeni* strains, the main agent of MLF, was a biogenic amine producer. All PCR results were confirmed by thin-layer chromatography and high-performance liquid chromatography analyses.