Molecular Markers for Assessing Must Varietal Origin

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Received: 3 November 2011 / Accepted: 19 January 2012
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Abstract Wine quality and market value greatly depend on the grapevine varietal composition, which may be characteristic of specific regions. In order to defend the distinct regions, Denominations of Origin were defined to protect against fraudulent practices. In this study, we evaluated the efficiency of two microsatellite-based systems (microsatellite [SSR] and intermicrosatellite [ISSR]) for must varietal composition determination and their potential role in certification purposes. Eleven Vitis vinifera L. varieties from leaf and monovarietal must DNA samples were screened with six SSR and 14 ISSR primers to discriminate polymorphisms. Principal coordinates analysis was performed with DCENTER on the resultant data using unweighted pair group mathematical average and revealed that ISSRs markers were not suitable for certification procedures, whereas nuclear SSR markers presented a complete correspondence between leaf and must samples, demonstrating that they were adequate for traceability purposes.

Keywords Certification · Must · DNA extraction ·
Grapevine identification · SSR · ISSR

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Published online: 11 February 2012