

DEVELOPMENT OF A *VITIS VINIFERA* miRNA MICROARRAY PLATFORM

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MicroRNAs (miRNAs) are small non-coding RNAs that play key roles in various biological processes. To gain insight into miRNA function, it is fundamental to obtain a high-resolution profile of their spatiotemporal distribution.

In order to characterize miRNA expression patterns in several tissues and developmental stages in *Vitis vinifera* cv. Corvina we have designed and validated a *Vitis vinifera* miRNA microarray based on the Agilent technology and established a complete protocol from smallRNA extraction to data analysis.

The design consists of 480 probes corresponding to mature miRNAs and miRNA star coming from public databases and/or in-house produced deep-sequencing data. Each probe has been replicated 10 times and for each probe a double mismatch control was included to assess hybridization specificity.

A good reproducibility of data has been obtained between technical and biological replicates. Data obtained with Agilent platform has been also compared with Combimatrix microarray platform. This tool will allow to perform a comprehensive miRNA expression atlas that will constitute a fundamental basis for define miRNAs function in grape.