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Poster Abstract – E.05

ANALYSIS OF STABLE TRANSFORMED GRAPE PLANTS EXPRESSING GFP TARGETED TO MITOCHONDRIA

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The grape genome is now available to the scientific community. In the near future efficient systems for functional analysis of genes will be very useful. For this reason, we developed a protocol able to transform some grape varieties. Two embryogenic cell lines of Vitis vinifera, variety Moscato giallo and variety Frappato, were obtained and used in transformation experiments with Agrobacterium tumefaciens harbouring GFP constructs targeted to mitochondria. Four hundred milligrams of globular embryo stages were treated with Agrobacterium. Four months later, the percent of transformation of Moscato Giallo and Frappato, measured on 100 isolated torpedo secondary embryos, was 60% for Frappato and 100% for Moscato giallo. Three months later, adult plants were analysed at the level of leaves and roots. From transformed leaves, a stable transformed cell line was produced and mitochondria easily visualised. These stable transformed plants and cells will be used to follow alterations of mitochondria during plant development and growth and in response to biotic and abiotic stresses.