EPigenetic Control of Development in Axenic Culture of Globe Artichoke


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epigenetics, development, artichoke, in vitro culture

In vitro propagation of globe artichoke is widely applied for large scale production. It is well known that in vitro propagation can induce epigenetic modifications responsible for different gene expression patterns and consequently altered phenotypes. To establish a possible correlation between altered phenotypes and epigenetic modifications at DNA level, artichoke plants were grown in vitro in the absence or presence of 5-azacytidine, a DNA-methylation inhibitor. Six subcultures were performed. At each step morphological traits of treated and untreated plants were recorded and genomic DNA was extracted from a number of samples. Preliminary observations suggest a reduction in overall DNA-methylation level in plants treated with 5-azacytidine. Variations in plant development will also be described.