Fluorine containing topolin cytokinins for Phalaenopsis micropropagation

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ABSTRACT

Phalaenopsis hybrids are among the most important ornamental pot plants, as their beautiful flowers and longevity ranked them as one of the most admired cut flowers of the world. However, because the monopodial growth nature, vegetative propagation is slow and difficult, and propagation through seed results in unwanted heterozygous types. Therefore there is a need for new tools to be developed. Here we illustrate the impact of second generation fluorine-containing topolin cytokinins during Phalaenopsis amabilis micropropagation. They exhibit cytokinin properties but do not exist in nature: 6-(3-fluorobenzylamino)purine (FmT) and its 9-β-D-riboside (FmTR). We show that FmTR should be preferred in Phalaenopsis tissue culture as an alternative to commonly applied cytokinin groups.