Improvement of transformation efficiency in *Petunia hybrida*

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Petunia hybrida is an important model plant with a high economic value as a bedding plant worldwide. Designing more efficient and reproducible techniques could broaden the fields of application of plant transformation. The aim of the presented work is to improve the efficiency and reproducibility of transformation in petunia. One approach was to increase translation of marker and reporter genes through intron and leader sequences in the 5'UTR.
The ST-LS1 intron had no effect on expression of the *gfp* whereas deletion of the omega leader led to a significant decrease in fluorescence. Another option to increase transformation efficiency was the modification of the terminator sequence for the *hptII* gene to minimize the stop codon readthrough. Double stop signal in *hptII* resulted in a significant increased transformation frequency. In addition stable transgenic lines tolerated higher concentrations of hygromycin compared to transgenic lines with the standard single stop signal.