**Abstract**

We generated mutated ethylene receptor genes (*mDG-ERS1*s) from the chrysanthemum ethylene receptor (DG-ERS1) cDNA by introducing one-nucleotide substitutions corresponding to those present in *Arabidopsis etr1-1*, *etr1-2*, *etr1-3*, and *etr1-4* and tomato *Nr*. The promoter of a tobacco elongation factor 1α (EF1α) gene was fused to *DG-ERS1* cDNA or one of the *mDG-ERS1*s. The resulting constructs were named *EF1α::mDG-ERS1(etr1-1)*, *-ERS1(etr1-2)* and so on, and introduced into chrysanthemum cv. Sei-Marine. We obtained putative transformants resistant to an antibiotic paromomycin with a yield of 2.4–6.2% depending on the construct. The *mDG-ERS1(etr1-4)* construct tended to be more effective in conferring reduced ethylene sensitivity in chrysanthemum than the others. PCR analysis gave amplification corresponding to a partial sequence of *EF1α::mDG-ERS1* transgenes. Southern blot analysis showed that, in the *mDG-ERS1(etr1-4)* transformant, not only the lines with reduced sensitivity to ethylene but also those sensitive to ethylene harbored the *mDG-ERS1(etr1-4)* transgene. The present results showed the usefulness of mutated ethylene receptor genes *mDG-ERS1*s for generation of transgenic chrysanthemums with reduced ethylene sensitivity.