Sequence of the psbA Gene from Wild Type Triazin-Resistant Nicotiana plumbaginifolia

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The sequence of the chloroplast-encoded psbA gene from the wild type Nicotiana plumbaginifolia was compared to that of the TBR2 terbutryn-resistant mutant isolated from photomixotrophic cell cultures (1). Two nucleotides were found to have been changed in the mutant psbA gene. The change at position 791 results in a Ser-Asn amino acid substitution. The change at position 933 does not alter the amino acid sequence. The amino acid substitution described here is at the same position as in all psbA genes from triazin resistant mutants so far sequenced in higher plants (2, 3); however this is the first case when Serine is replaced by Asparagine.

Legend: The nucleotide and the deduced amino acid sequence of the psbA gene of N. plumbaginifolia is shown. The Ser-Asn substitution in the mutant psbA gene at codon 264 is boxed. The "silent" nucleotide-change at 933 position is also indicated. The N. plumbaginifolia psbA gene spans an EcoRI-PstI restriction endonuclease Fragment of 0.9kb and a PstI fragment of 2.3kb.

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References: