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Secondary Structure Prediction of Acetolactate Synthase Protein in Sulfonylurea Herbicide Resistant *Limnophila sessiliflora*

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Abstract:

Here, we cloned and sequenced fragments encoding ALS genes from biotypes of *Limnophila sessiliflora* susceptible and resistant to SU-herbicide. Comparisons of deduced amino acid sequences and secondary protein structures were implemented. The results showed that Pro was substituted with Gln and a G-X-X-P motif was abolished in Domain A of resistant ALS, and the secondary protein structure was converted from extended strands to an α -helix around Domain A by the Pro mutation. We suggest that resistance to SU-herbicides is caused by the mutation of ALS and conformational change of its secondary structure.

Keywords:

herbicide resistance, *Limnophila sessiliflora*, secondary structure, sulfonylurea herbicide

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