ONLINE ISSN : 1349-0923
PRINT ISSN : 1348-589X

Journal of Pesticide Science
Vol. 29 (2004) , No. 1 pp.1-5

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

Ying Lin[1)], Guang-Xi Wang[2)3)], Wei Li[3)] and Misako Ito[2)]

1) Department of Biotechnology, South China University of Technology
2) Graduate School of Agriculture, Kyoto University
3) Wuhan Institute of Botany, Chinese Academy of Sciences

(Received: July 18, 2003)
(Accepted for publication: October 14, 2003)

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

Acetolactate Synthase Protein in Sulfonylurea Herbicide Resistant *Limnophila sessiliflora*". *J. Pestic. Sci.* Vol. **29**, pp.1-5 (2004) .

doi:10.1584/jpestics.29.1

JOI JST.JSTAGE/jpestics/29.1