CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY

Name(s)
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Project Number
S0406

Project Title
Screening for Transgenic Lines for Chromatin Immunoprecipitation (ChIP) Analysis of AG Targets in the Arabidopsis

Abstract

Objectives/Goals
AGAMOUS (AG) is a C-function floral identity gene, which is responsible for stamen and carpal development in the Arabidopsis floral meristem. In addition, AG is also required for meristem determinacy such that ag mutants are indeterminate forming endless numbers of whorls in a repeating pattern: (sepal, petal, petal)n. The main focus of this project is to identify lines that contain the T-DNA.

Methods/Materials
To determine and identify target genes of the AG, a special genetic construct with epitope tag is amplified and is inserted in the Arabidopsis through transgenesis. The offspring of these transgenic plants are observed and genotyped for heterozygous lines, which are isolated and self crossed. The offspring is treated with basta to determine if the parental lines are heterozygous for T-DNA

Results
Offspring of about 30 of 60 lines planted showed that the parental lines are heterozygous for the T-DNA. Thus, these 30 lines will be used for the ChIP analysis.

Conclusions/Discussion
By choosing these lines for the ChIP analysis, AG targeted sites can be more accurately identified and its function in organ identity can be understood.

Summary Statement
My project is about identifying the lines that contain the T-DNA construct, in that these lines will be used for ChIP process.

Help Received
Used lab equipment at Caltech, Worked on project under the supervision of Dr. Toshiro Ito.