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Isolation and Sequencing of Two Calmodulin cDNA Clones from Rice Flower

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Calmodulin (CaM) plays an important role in sensing and transducing changes in cellular Ca^{2+} concentration in response to several biotic and abiotic stresses. Four cDNA clones encoding four different calmodulin, RFCaM-1, RFCaM-2, RFCaM-3, and RFCaM-4 were isolated from a rice flower cDNA library and their nucleotide sequences were analyzed. Comparison of the deduced amino acid sequence of the RFCaMs cDNA clone have identity to *Arabidopsis* (70%), potato (92%), carrot (98%), and barley and soybean (98%).

In order to determine the copy number and genomic structure of the CaM genes present in the rice genome, a genomic Southern blot analysis was performed using a rice calmodulin cDNA clone (RCaM-2) as a probe. Four intense and a few weaker bands were observed in the restriction fragments. Most restriction fragments showed high intensity hybridization signals under stringent conditions, suggesting the presence of a small multigene family for CaM in the rice genome as in other plants.