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SYSTEMATIC SEARCH FOR VARIATION IN THE HUMAN CATECHOL-O-METHYLTRANSFERASE GENE AND ASSOCIATION STUDY WITH SCHIZOPHRENIA

Y.-R. Lee^{1*}, C.-H. Chen^{2*} and K.-J. Hsiao^{1,3} ¹Institute of Genetics and ²Division of Neuropsychiatry, School of Medicine, National Yang-Ming University; ³Clinical Biochemistry Research Laboratory, Department of Medical Research, Taipei-Veterans General Hospital

Schizophrenia is a severe, disabling chronic illness with a lifetime prevalence of approximately 1%. The etiology of schizophrenia is still unknown. Family, twin and adoption studies indicated that genetic factors are important components of schizophrenia. Recent linkage studies suggested chromosome 22q11-13 may harbor susceptible genes for schizophrenia. Moreover, patients with velo-cardio-facial syndrome (VCFS), which is characterized with microdeletion of 22q11 cytogenetically, are liable to psychosis. One of the possible candidate gene mapped to this region is catechol-o-methyltransferase (COMT, EC 2.1.1.6) gene, which is involved in the metabolism of catecholamine neurotransmitters.

To elucidate the possible involvement of COMT gene in schizophrenia, we searched for the molecular variants of four coding sequences of COMT by direct sequencing the PCR amplified products. We identified a 1526C/T at exon 3, a 1883C/G and a 1947G/A at exon 4, a 2359G/A at exon 5, and a C insertion at 3' untranslated region. We also performed case-control association between 177 schizophrenic patients and 99 normal controls using three RFLP markers. No association was detected. Thus, we suggest that COMT gene may not play an important role in the pathogenesis of schizophrenia in our patients.

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IDENTIFICATION OF *Anoetochilus formosanus* AND *Anoetochilus koshunensis* WITH RAPD MARKERS.

L.-C. Fu¹, K.-T. Cheng² and H.-S. Tsay^{3,*}. ¹Graduate Institute of Agronomy, National Chung-Hsing University, Taichung, Taiwan, R.O.C. ²Graduate Institute of Pharmacognosy Science, Taipei Medical College, Taipei, Taiwan, R.O.C. ³Department of Agronomy, Taiwan Agricultural Research Institute, Wufeng, Taichung, Taiwan, R.O.C.

RAPD (random amplified polymorphic DNA) markers were developed to distinguish *Anoetochilus formosanus* from *Anoetochilus koshunensis*. The major difference between the species is that the lip of the *A. formosanus* flower is downward, and the claw of the lip is deeply pectinate, but in *A. koshunensis* the lip is upward and lacks the pectinate structure. Morphological differentiation of the two species beyond the flowering period is difficult. RAPD markers provide a rapid and easy tool for identification of *Anoetochilus* species. In this study, fourteen species-specific RAPD markers generating from eight primers were obtained, and the extent of hybridization in hybrids between *A. formosanus* and *A. koshunensis* was also determined.