G301 Identification of peripheral blood dendritic cell-specific class II antigens and their expression in *E.coli*.

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Dendritic cells(DC) are potent antigen presenting accessory cells, and are believed to play an important role in the immune system in human. Our experiment was initiated to identify DC-specific surface marker which may enable us to generate monoclonal antibodies to be used for a positive selection of DC. Small amounts of pure DC were isolated from PBL through the negative isolation procedures, established in our laboratory. cDNA library of DC was constructed together with those of T-cells and monocytes. The cDNA libraries were screened by differential hybridization with ^{32}P-labeled cDNA probes of DC and T/monocytes. Isolated clones which were potentially specific to DC were screened again by southern blot differential hybridization. The selected clones were sequenced and searched for their sequence homology in Gene Bank. Novel or interesting clones were confirmed for their specificity to DC by checking the relative amounts of the mRNAs expressed in T-cells, B-cells, monocytes and DC by PCR. Through the experiments, we found two MHC class II genes exclusively expressed in DC among the PBL. Full-length cDNAs of the clones were transfered into expression vector pQE9, but was not expressed in *E.coli*. Extracellular domains of each clone were expessed in *E.coli* and purified by histidine-affinity column in a small scale. These proteins will be used to generate monoclonal and polyclonal antibodies for further functional analysis of the clones.

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A role of *Candida albicans* proteinase in the pathogenicity of *Candida* infections

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We have studied the relationships between virulence for mice and an ability of proteinase production of *Candida albicans*. We have used two *C. albicans* strains with different proteinase activity, NIH A-207, which secretes proteinase, and NIM 678, a proteinase-deficient mutant strain. The mortality rates for mice infected with NIH A-207 were significantly higher than those infected with NIM 678(100 vs 20%). Mice immunized with purified NIH A-207 proteinase were found to be tolerant to the infection with NIH A-207. Furthermore, injection of monoclonal antibodies against the proteinase into mice decreased the number of colony-forming units(CFU) recovered from kidneys of mice infected with NIH A-207. Protection from the infection could also be achieved by the transfer of lymph node T cells from mice immunized with proteinase. These data clearly indicate that proteinase is a major virulent factor in *C. albicans* infection and suggest that both humoral and cellular immunities are involved in the infection.