

F326 Identification of Genes possibly Involved in Early Sexual Development (ESD) of *Aspergillus nidulans*

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We sequenced 340 randomly selected clones in a 3-directed cDNA library made from the mycelia at the early sexual development (ESD) stage of *Aspergillus nidulans*, followed by comparison of the obtained sequences with each other and with the GenBank entries. Sixty-seven individual clones consisted of 26 expressed sequence tags (ESTs) in a redundant group, and the remaining 238 clones (238 ESTs) were in a solitary group. Totally, 264 ESTs were obtained. One EST appeared five times, two four times, eight three times and 15 twice. Seventy-four out of 264 ESTs were identified in the currently available databases in GenBank. Six out of redundant 26 ESTs appeared once or twice among 326 cDNA clones obtained from the late sexual stage and five only once among 254 cDNA clones from the vegetative mycelia. One EST occurred once in both libraries. These results suggested that most of 26 ESTs may be expressed relatively highly at the ESD stage. Northern hybridization by using the 26 EST DNAs as probes clearly confirmed that genes having 17 ESTs were expressed to the higher level at the ESD stage than at the vegetative stage. Expressions of four, out of 17 EST-containing genes, were increased by the *veA* gene, and one was by the *nsdD* gene. These results implied that those five genes may be involved in sexual development, since both two genes are required for sexual development

F327 Developmental Expression of the *rpl13a* Gene for a Ribosomal Protein L13a in *Aspergillus nidulans*

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By using an EST DNA as a probe, a gene homologous to that for a ribosomal protein L13a (*rpl13a*) of *Saccharomyces cerevisiae* was isolated from an *Aspergillus nidulans* genomic library. Nucleotide sequences of the genomic DNA and its cDNA revealed that there was an open reading frame (ORF) possibly coding for a 202 amino acid polypeptide with a molecular weight of 23 kDa. The deduced amino acid showed 73% identity and 85 similarity to that of *S. cerevisiae* L13a protein. As is the case of other L13a proteins, *A. nidulans* L13a had a putative leucine zipper motif in its N-terminus and a basic leucine zipper motif. Expression of the *rpl13a* gene was not affected by both of the *veA* gene and the *nsdD* gene, which have been identified to be necessary for sexual development of *A. nidulans*. The expression level of the *rpl13a* gene peaked at 2 hr after induction of sexual development, decreased thereafter, and then increased again at the late stage of sexual development. In contrast, its expression was decreased gradually from the beginning of asexual development. These results suggested that this RPL13a protein can be involved in regulation of other gene expressions during sexual development of *A. nidulans*.