23004005 Regulation of Alkaline Protease Gene Expression in *Aspergillus Oryzae*

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Basis features of regulation of the alkaline protease (*alp*A) gene expression in the filamentous *Aspergilus oryzae* was studied. Mycelia were grown in a complete medium and transferred to a minimal salt medium supplemented with different carbon and/or nitrogen sources. After 6 hour transfer into minimal salt medium, analyses of residual proteolytic activities and *alp*A gene transcripts were examined. In the absence of both carbon and nitrogen sources, *alp*A gene is fully derepressed. Addition of exogenous glucose strongly repressed *alp*A gene expression. Moderate expression was observed when lactose was used as a sole carbon source. It was found that ammonia did not repressed *alp*A gene expression and, did not promote it either, because the addition of 50 – 200 mM NH_4C1 to minimal salt medium provoked expression level. The expression of *alp*A gene was successfully induced with exogenous protein complexes in yeast extract and peptone at low concentrations. The different effects caused by amino acids on ALP production were observed. The data revealed that carbon and nitrogen metabolite repression is operative to control *alp*A gene in this organism. Promoter sequence analysis of the gene showed the presence of several positions of various cis-acting motifs known to mediate carbon, nitrogen, and pH regulation in many other filamentous fungi.