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Characterization of UV-inducible Gene (UVI-155) in Fission Yeast *Schizosaccharomyces pome*

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The fission yeast, *Schizosaccharomyces pombe* was used in this study as a model system for higher eukaryotes. To study UV-inducible responses in *S. pombe,* five UV-inducible cDNA clones were isolated from *S. pombe* by using subtration hybridization method. To investigate the expression of isolated genes, *UVI-155*, the cellular levels of the transcripts were determined by Northern blot analysis after UV-irradiation. The transcripts of isolated gene (*UVI-155*) increased rapidly and reached maximum accumulation after UV-irradiation. Compared to the message levels of control, the levels of maximal increase were approximately 5 fold to UV-irradiation. In order to investigation whether the increase of *UVI-155* trascripts was a specific results of UV-irradiation, *UVI-155* transcript levels were examined after treating the cells to mthylmethane sulfonate (MMS). The transcripts of *UVI-155* were not induced by treatment of 0.25% MMS. These results implied that the effects of damaging agents are complex and different regulatory pathways exist for the induction of these genes. To characterize the *UVI-155* gene, gene deletion experiments were analyzed. The deleted strain was not well grown. This result indicated that the *UVI-155* gene is essential for cell viability.