

F843 Expression of human papillomavirus E6 protein in murine mammary cell line, HC11

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The human papillomavirus type 16 (HPV-16) E6 oncogene is thought to play a role in the development of most human cervical cancers. This E6 oncoprotein affects cell growth control at least in part through its association with and inactivation of the cellular tumor suppressor gene product, p53. Several studies indicate that mammary glands express various tissue-specific genes. Especially, expression of the β -casein gene is restricted to mammary epithelial cell. Treatment of HC11 cells with the lactogenic hormones prolactin, insulin, and glucocorticoids leads to rapid stimulation of β -casein gene transcription. The purpose of this experiment is to investigate the pattern of overexpression of HPV E6 using rat β -casein promoter in a cell level. To do this, a pCPH plasmid which has the E6 gene under the transcriptional control of rat β -casein gene promoter was constructed. Inserted nucleotides of pCPH expression vector were identified by PCR and sequencing. The HPV E6 expressing pCPH vector was stably transfected into HC11 cell by electroporation method and G418-resistant colonies were selected. Individual transfectant was expanded and treated with dexamethasone and prolactin to induce the expression of HPV E6. DNA and RNA were then extracted from each transfectant and were analyzed by PCR, RT-PCR, and Northern blot. We showed that E6 oncogene was inserted into chromosome in the transfected cells and its expression was slightly enhanced by treatment with dexamethasone and prolactin.

F844 Aging Affects the Cadmium and UV-induced Expression of Metallothionein Gene in Transgenic *Drosophila*

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Metallothioneins (MTs) are small, cysteine-rich, metal binding proteins that are ubiquitous among eukaryotes. The biosynthesis of MTs is enhanced both *in vivo* and in cultured cells by metal ions, glucocorticoids, cytokines, growth factor, and many stress-producing conditions. The well established role of MT protein is cell protection from metal toxicity. It was reported that MT is also an efficient scavenger of hydroxyl radicals. A characteristic feature of aging organisms is their loss in homeostatic functions, including the ability of protein synthesis and turnover. In this study, we examined effect of aging on MT expression induced by cadmium and UV using transgenic *Drosophila* carrying MT-*lacZ* fusion genes. In young aged groups, β -galactosidase activities were induced by cadmium and UV, but stress-induced expressions of MT-*lacZ* were not observed in old-aged groups. These results show that the stress-induced expression of MT gene is affected by aging.