

# Mechanisms of human papillomavirus E6/E7 expression during cellular differentiation of cervical cancer

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# 1998 Fiscal Year Final Research Report Summary

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## Mechanisms of human papillomavirus E6/E7 expression during cellular differentiation of cervical cancer

Research Project

### Project/Area Number

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08671876

### Research Category

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Grant-in-Aid for Scientific Research (C)

### Allocation Type

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Single-year Grants

### Section

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一般

### Research Field

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Obstetrics and gynecology

### Research Institution

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Kanazawa University

### Principal Investigator

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### Co-Investigator(Kenkyū-buntansha)

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### Project Period (FY)

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1996 – 1998

### Keywords

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HPV / Cervical cancer / Cell differentiation / Transcription factor


## Research Abstract


To clarify the molecular mechanisms through which human papillomavirus E6/E7 expression is activated during the process of cellular differentiation in stratified epithelial cells of uterine cervix, we identified core enhancer of upstream regulatory region of HPV3 1 b E6/E7 genes using transient expression assays. DNA foot print analyses and gel shift analyses identified several nuclear factors which bind core enhancer and regulate transcription of E6/E7 genes. In particular, AP1 was found to be the most potent transactivator. In situ hybridization analyses revealed that E6/E7 mRNA was expressed mainly in the undifferentiated basal layers of stratified epithelial cells in uterine cervix, which was co-localized with AP1 expression determined by immunohistochemical analyses. These findings suggest that AP1 is the critical determinant of HPV oncogene expression. In addition, we found that cellular factor YY1 cooperates with API to achieve full activation of HPV oncogene expression. These results may provide insight into molecular targets for gene therapies against cervical cancer induced by HPV infection.


## Research Products (4 results)


All Other

All Publications (4 results)

[Publications] Satoru Kyo, David Masaki Inoue et al: "Expression of AP1 during cellinlan differentiation determines human papillomarims E6/E7 expression in stratified epithelal all" Journal of General Virology. 78. 401-411 (1997) 

[Publications] Tan Kanaya, Satoru Kyo Laimins A reimonis: "The 5' region of the human porpilloma Virus type 31 upstream rignlatory region acts as an enbehave which Angments viral early expression" Virology. 237. 159-169 (1997) 

[Publications] "Expression of API during cellular differentiation determines human papillomavirus E6/E7 expression in stratified epithelial cells" Jouenal of General Virology. 78. 401-411 (1997) 

[Publications] "The 5'Region of the Human Papillomavirus Type 31 Upstream Regulatory Region Acts as an Enhancer which Augments Viral Early Expression Through the Action of YY1" Virology. 237. 159-169 (1997) 

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