HPV E7 oncoprotein interaction patterns using cell-free translation systems

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Generally, after high-risk HPV (human papillomavirus) infection, E6 and E7 oncoproteins are consistently expressed, and essential for immortalization and transformation of human squamous epithelial cells [1]. The E6 and E7 proteins form complexes with p53 and Rb, respectively, inhibiting the activities of the proteins in cell cycle regulatory systems. These selective degradations of tumor suppressor proteins are strategically very important in gene therapy, as the inactivation of p53 and Rb is essential for the induction of cervical carcinoma [2]. In this study, we produced a recombinant E7 protein and analyzed its binding partners in cell lysates to get the molecular basis of tumor-specific effects in E7-expressing tumors. We observed that the molecular pathways of transforming effects of HPV oncoproteins are dependent on the cervical cancer cell lines. [This work was supported by the Korea Science and Engineering Foundation (KOSEF) through the ADvanced Environment Monitoring Research Center at Kwangju Institute of Science and Technology.] REFERENCES [1]. M. Scheffner. Proc Natl Acad Sci USA 1991;88:5523-5527. [2]. zur Hausen H. Cancer Res 1989;49:4677-4681.