

Human papillomaviruses (HPV) are small DNA viruses ubiquitously present in population. They infect mucosal and cutaneous epithelium and cause benign and malignant diseases. Research of HPV became more intensive after 1983, when these viruses were isolated for the first time from cervical carcinoma samples. Nowadays it is known, that number of other malignancies is associated with HR HPV infection and the research is focused on evaluating the role of these viruses in skin cancer. This bachelor thesis outlines mechanisms by which HPV from Alfa and Betapapillomaviridae genus causes malignant and benign lesions. The main HPV oncoprotein is protein E6, which binds p53 and targets it for degradation, and protein E7 which interacts with retinoblastoma protein and influences his function in cell cycle regulation. Papillomaviruses from genus alpha contain additionally E5 oncoprotein which is not present in viruses from genus beta. This suggests that the mechanisms of cancerogenesis initiated by viruses from these two genera will be different.