

HPV16 L1L2 VLP INTERACTION WITH HUMAN LEUKOCYTES

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Human Papillomavirus (HPV) accounts yearly for 500,000 woman cervical cancer and half of them die of this neoplasia. Besides sexual contact, there are other HPV transmission pathways; however the difficulty to obtain enough viable wild or mutate HPV particles has limited the researches of the different aspects of the virus biology. This study investigates the possibility of the HPV16 to infect human peripheral blood leukocytes. We developed a leukocytes separation method for the heparin blood samples and the cellular integrity and viability was analyzed by light, laser scanning confocal microscopy (LSCM) and transmission electron microscopy (TEM). We induced the recombinant L1 and L2 viral capsid proteins expression in epithelial human cells of the 293T strain, transfecting them in a transient way by pUF3L1h and pUF3L2h vectors. The L1L2 expression and VLPs (virus-like particles) production was confirmed by Western-blot and TEM. The recombinant L1L2 capsid proteins and structured VLPs were intracellular expressed. Both after purification interacted with the leukocytes by the internalization through CD71 receptor, confirmed by LSCM. The possibility of the HPV16 to infect peripheral blood leukocytes can magnify the presence of viral particles in the organism and transform the hematological way in a new possibility of infection form, which is not considered in public health nowadays.

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