

THERAPEUTIC DNA VACCINE AGAINST TUMORS INDUCED BY HUMAN
PAPILLOMA VÍRUS 16.

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Virtually all cases of cervical cancers are associated with human papilloma virus (HPV) infection. HPV-16 is found in 50-60% of cervical malignances. The oncoprotein E7 is the main target in the development of therapies against tumors associated with HPV. In our previous studies, we developed a DNA vaccine that expresses the oncoprotein E7 genetically fused to the glycoprotein D (gD) of HSV-1. This vaccine was able to generate E7 specific CD8+ T cell response and protect mice against tumor development when 4 doses of the vaccine were administered. In the present work, we constructed a new version of the DNA vaccine that contains the genes of oncoproteins E7, E6 and E5 of HPV-16 fused to the HSV-1 gD. The expression of the hybrid protein was confirmed by immunofluorescence assays and flow cytometry. The immunization of mice with only one dose of the new DNA vaccine pgDE7E6E5 (100µg) was able to stimulate CD8+ T cell response in IFN- γ intracellular cytokine staining assays and protect 100% of the animals against tumor development. Also, this vaccine was able to protect 70% of mice free of tumors in the therapeutic tumor challenge. All together, these data show that the new version of the DNA vaccine is more efficient in generating specific CD8+ T cell response and tumor growth protection.

Supported by: FAPESP