

## 4<sup>th</sup> International Conference and Exhibition on Immunology

September 28-30, 2015 Crowne Plaza Houston River Oaks, Houston, TX, USA

## Vaccinia virus MVA as vector-vaccine strategy to modulate immune responses against *Papilloma virus*

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Vaccinia virus was developed and tested as a safe smallpox vaccine. It was also found to be avirulent for normal or immunosuppressed individuals, and not to have negative side effects in all human tested up to now. The approach of expressing a foreign protein via vaccinia virus vectors has already been used to protect animals from other virus infections. Also, it is well known that *Human papilloma viruses* can induce warts, condylomas, and other intraepithelial cervical lesions that can progress to cancer. Cervical cancer is a serious problem in developing countries because early detection is difficult, and thus proper early treatment is many times missing. Based on this, we evaluate the potential of the MVA E2 recombinant MVA-Virus Vaccine in Phase I, II and III clinical trials to eliminate all types of *Papilloma virus* lesions. 89.3% female patients showed complete elimination of lesions after treatment with MVA E2. In men, all lesions were completely eliminated. All MVA E2-treated patients developed antibodies against the MVA E2 vaccine and generated a specific cytotoxic response against papilloma-transformed cells. *Papilloma virus* DNA was not detected after treatment in 83% of total patients treated. MVA E2 did not generate any apparent side effects. These data suggest that therapeutic vaccination with MVA E2 vaccine is an excellent candidate to stimulate the immune system and generate regression in intraepithelial lesions when applied locally.

## Biography

Ricardo Rosales has completely a PhD from Louis Pasteur University-France and Post-doctoral studies at the NIH (National Institutes of Health)-USA. He is a Full Professor at the México University. He is the President of Virolab S de RL de CV. He has published more than 30 papers in reputed journals.

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