Filipe Colaco Mariz, J Vaccines Vaccin 2012, 3:4
http://dx.doi.org/10.4172/2157-7560.S1.007

OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference on
Vaccines and Vaccination

August 20-22, 2012 Hilton Chicago/Northbrook, USA

Development of new biotechnology platforms for production of HPV vaccines: Approaches in the context of developing countries

Filipe Colaco Mariz
Federal University of Pernambuco, Brazil

Persistent infection with high-risk Human Papillomavirus (HPV) is an essential factor in the development of cervical cancer and also a contributory factor for vulvar, vaginal, penile, anal, head and neck (oropharyngeal) cancers. More than 80% of these cases occur in developing world. The current prophylactic HPV vaccines provide protection against the -16 and -18 genotypes which are most commonly associated with cervical cancer worldwide. Although the proven efficacy, the introduction of a vaccination program with these vaccines is a challenge due to their high costs, social barriers and the potential for new oncogenic strains to emerge. Furthermore, a therapeutic vaccine is needed for women already affected by HPV-related cancer. In this manner, we have developed a cost effectiveness platform based on Pichia pastoris yeast and non commercial vectors for production of multiple HPV Virus-like Particles (VLPs) types with prophylactic purposes. In parallel, different DNA vectors based on epitopes of E5 HPV oncogene were constructed for evaluation of therapeutic strategies through genetic immunization. The immunological activities of these approaches are now under evaluation in animal models. The development of these platforms is an important step for establishment of alternatives vaccinal strategies against HPV in the context of financial constraints, lack of adequate infrastructure and the competing priorities found in the developing countries.

Biography

Graduated in Biomedicine from UFPE, Filipe Colaço Mariz worked for two years (2008 and 2009) as Scientific Initiation fellow in the Laboratory of Molecular Studies and Experimental Therapy (LEMTE) at the Department of Genetics. Between 2010 and 2011 he has completed his Master´s degree in Therapeutic Innovation at the same institution in the field of biotechnology with focus on vaccine strategies against HPV and BPV, and also worked in the Integral Medicine Institute Prof. Fernando Figueira (IMIP) at the Biochemistry and Immunology sectors. He is currently doing his PhD thesis in the LEMTE under the guidance of Dr. Freitas.

filipe.mariz@yahoo.com.br