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(54) Title: CODON-OPTIMIZED HPV16 LI FOR SALMONELLA VACCINE STRAINS AGAINST HUMAN PAPILLOMAVIRUS TYPE 16

(57) Abstract: The present invention relates to a novel nucleic acid sequence (HPV16 L1S) encoding antigenic HPV16 L1 protein as provided in SEQ ID NO: 1, wherein the said sequence has atleast one modified codon for optimum stability of recombinant plasmid vector when transformed in the prokaryotic micro-organism for improved immunogenicity of the resulting prokaryotic micro-organism. The invention further relates to constructing recombinant vectors pFS14nsdHPV16L1 and pFS14nsdHPV16 kan L1S harboring SEQ ID NO: 1, wherein the former carries Ampicillin and the latter, Kanamycin as a selection marker. The invention also relates to an attenuated strain of a prokaryotic micro-organism transformed with nucleic acid encoding HPV16 (Human Papillomavirus) major capsid protein and expressing the corresponding protein. In addition the invention discloses a process of producing a vaccine based on prokaryotic micro-organism for the treatment of papillomavirus infection and associated risk of cancer.



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