

Potential of human papilloma vaccine candidate using naloxone/alum mixture as an adjuvant: increasing immunogenicity of HPV-16E7d vaccine

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Abstract

Many types of Human papillomaviruses (HPVs) have been identified, with some leading to cancer and others to skin lesions. Studies have demonstrated an association between oncogenic HPV and cervical cancer. Antagonists of opioid receptors such as naloxone can contribute to the shifting Th2 response toward Th1. Herein; we studied the adjuvant activity of NLX/alum mixture for improvement of the immunogenicity of HPV-16E7d vaccine.

The mice were administered different regimens of vaccine; E7d, E7d-NLX, E7d-Alum, E7d-NLX-Alum, NLX, alum and PBS via subcutaneous route for three times with two weeks interval. Two weeks after the last immunization, the sera were assessed for total antibody, IgG1, IgG2a, IL-4, IFN- γ and IL-17 with an optimized ELISA method and lymphocyte proliferation was evaluated with Brdu method.

Immunization of mice with HPV-16 E7d vaccine formulated in NLX/Alum mixture significantly increased lymphocyte proliferation and Th1 and Th17 cytokines responses compared to other experimental groups. Analysis of humoral immune responses revealed that administration of vaccine with NLX/Alum mixture significantly increased specific IgG responses and also isotypes compared to control groups. NLX/Alum mixture as an adjuvant could improve cellular and humoral immune responses and the adjuvant maybe useful for HPV vaccines model for further studies in human clinical trial.



Biography:

Mahsa Yasaghi has doctorate degree in pharmaceutical science from IAUPS. She is active in the field of medicine production and pharmaceutical supplements.

Speaker Publications:

- 1 Mahsa Yasaghi et al ; Potentiation of human papilloma vaccine candidate using naloxone/alum mixture as an adjuvant: increasing immunogenicity of HPV-16E7d vaccine, 2016 Sep
 2. Mahsa Yasaghi et al : Synthesis and pharmacological properties of polysubstituted 2-amino-4H-pyran-3-carbonitrile derivatives, 2019 Sep 253.
 3. Mahsa Yasaghi et al ; Facile access to new pyrido[2,3-d]pyrimidine derivatives, 2019 May
 4. Mahsa Yasaghi et al ; Calprotectin (S100A8/S100A9): a key protein between inflammation and cancer, 2018 Oct
 5. Mahsa Yasaghi et al ; Hereditary breast cancer; Genetic penetrance and current status with BRCA, 2019 May
- 4th International Conference on
Tumor & Cancer Immunology and Pediatric-oncology
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