

عنوان مقاله:

Cloning and Expression of Fusion (F) and Haemagglutinin-neuraminidase (HN) Epitopes in Hairy Roots of Tobacco (*Nicotiana tabaccum*) as a Step Toward Developing a Candidate Recombinant Vaccine Against Newcastle Disease

محل انتشار:

مجله سلول و تحقیقات مولکولی، دوره 7، شماره 1 (سال: 1394)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Amir Ghaffar Shahriari - *Department of Plant Biotechnology and Breeding, Ferdowsi University of Mashhad, Mashhad, Iran*

Abdol Reza Bagheri - *Department of Plant Biotechnology and Breeding, Ferdowsi University of Mashhad, Mashhad, Iran*

Mohammad Reza Bassami - *Biotechnology Research Group, Ferdowsi University of Mashhad, Mashhad, Iran*

Saeed Malek Zadeh Shafaroudi - *Department of Plant Biotechnology and Breeding, Ferdowsi University of Mashhad, Mashhad, Iran*

خلاصه مقاله:

Newcastle is a significant avian disease continuing to cause considerable loss. Developments in genetic engineering have led to plant-based platforms for human and animal vaccine production. Recombinant vaccine production in hairy root systems have several advantages over stable expression in whole plants, including high growth rates, ready genetic manipulations, high levels of recombinant protein production, and the potential for bioreactor culture. In an attempt to develop a recombinant vaccine in hairy roots, the sequences encoding fusion (F) and haemagglutinin-neuraminidase (HN) epitopes of Newcastle disease virus were cloned in pBI121 expression vector which was then transferred into leaf disks of tobacco (*Nicotiana tabaccum*) 'Turkish' cultivar by means of *Agrobacterium rhizogenes*. Hairy roots developed on MS medium containing 50 mg/L kanamycin and 30 mg/L meropenem. Incorporation of the heterologous gene in the genome of hairy roots was confirmed by PCR. Expression analyses were performed by real-time PCR at transcription level and by dot-blot and ELISA assays at translation level, all confirming the expression of the heterologous gene and production of the recombinant protein

کلمات کلیدی:

Recombinant Vaccine, Antigen Expression, Newcastle Disease, Hairy Roots, *Agrobacterium Rhizogenes*

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/542969>



