

عنوان مقاله:

Virus-Based Vectors: A New Approach for Production of Recombinant Proteins

محل انتشار:

فصلنامه گزارش های زیست فناوری کاربردی، دوره 6، شماره 1 (سال: 1398)

تعداد صفحات اصل مقاله: 9

نویسندگان:

Zahid Naseri - *Department of Plant Breeding and Biotechnology, Faculty of Agriculture, University of Tabriz, Iran*

Ghaffar Khezri - *Department of Plant Breeding and Biotechnology, Faculty of Agriculture, University of Tabriz, Iran*

Seyed Javad Davarpanah - *Applied Biotechnology Research Center, Baqiyatallah University of Medical Sciences, Tehran, Iran*

Hamideh Ofoghi - *Department of Biotechnology, Iranian Research Organization for Science and Technology, Tehran, Iran*

خلاصه مقاله:

Recombinant proteins have become one of the basic human needs today for pharmaceutical, industrial and research purposes. The conventional methods of producing recombinant proteins, including bacterial systems, yeast, and human cells, have led to rising prices and biosafety problems for these products. Research on commercial production of recombinant proteins prompted a new method based on plant RNA viruses and plant hosts, which is known as Transient Expression System. Accordingly, a viral vector based on the plant RNA virus genome was designed in which the target gene is placed underneath a viral subgenomic promoter. In these vectors, despite the genetic manipulation, the ability to infect the entire plant that was present in the virus was preserved and, several days after plant infestation, it became bioreactor for the production of recombinant protein. The advances made in this field led to the creation of hybrid vectors based on plant viruses and Agrobacterium T-DNA (Transfer DNA). The amount of recombinant protein produced by these vectors was up to 5 grams per kilogram of fresh weight, which is considered a reliable record. The abundant benefits of this method have attracted the attention of researchers in this way, including the rapid and high production rate, reduced production costs and bio-safety of manufactured products. Several recombinant drugs are currently produced by the transient expression system, either delivered to the consumer or by clinical trials. This review presents how to discover, creation and development of viral vectors in transient expression systems in order to produce recombinant proteins.

کلمات کلیدی:

Transient expression, Viral Vectors, Recombinant protein

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1043459>



