

## Title (en)

PRODUCTION OF FOREIGN NUCLEIC ACIDS AND POLYPEPTIDES IN PLANT SYSTEMS

## Title (de)

HERSTELLUNG FREMDER NUKLEINSÄUREN UND POLYPEPTIDE IN PFLANZENSYSTEMEN

## Title (fr)

PRODUCTION D'ACIDES NUCLEIQUES ET DE POLYPEPTIDES ETRANGERS DANS DES SYSTEMES VEGETAUX

## Publication

**EP 1984509 A4 20100714 (EN)**

## Application

**EP 07750761 A 20070213**

## Priority

- US 2007003942 W 20070213
- US 35390506 A 20060213
- US 77325506 P 20060213
- US 77337406 P 20060213
- US 77337806 P 20060213
- US 87945007 P 20070109

## Abstract (en)

[origin: WO2007095304A2] The present invention provides systems and methods for producing a nucleic acid or protein in young plants. Typically, the young plants are grown in a contained, regulatable environment. In some embodiments, expression of a pharmaceutically active protein in the young plants is controlled by an exogenously inducible promoter or a viral promoter. In some embodiments, the young plants are edible and may be eaten live or preferably harvested live to preserve the maximal biological activity of the nucleic acid or protein. In some embodiments, the young plant is a young pea plant or a young Nicotiana plant.

## IPC 8 full level

**C12N 15/82** (2006.01)

## CPC (source: EP KR US)

**A01H 1/00** (2013.01 - KR); **A61K 38/00** (2013.01 - KR); **C07K 14/005** (2013.01 - EP); **C07K 14/32** (2013.01 - KR); **C07K 14/61** (2013.01 - EP KR); **C07K 14/62** (2013.01 - EP); **C12N 5/14** (2013.01 - KR); **C12N 7/00** (2013.01 - EP); **C12N 9/16** (2013.01 - KR); **C12N 9/88** (2013.01 - EP KR); **C12N 15/09** (2013.01 - KR); **C12N 15/11** (2013.01 - KR); **C12N 15/8203** (2013.01 - EP); **C12N 15/8216** (2013.01 - EP); **C12N 15/8257** (2013.01 - EP); **C12N 15/8258** (2013.01 - EP KR); **A61K 39/00** (2013.01 - EP KR US); **A61K 2039/542** (2013.01 - KR); **C12N 2710/20022** (2013.01 - EP); **C12N 2760/16122** (2013.01 - EP)

## Citation (search report)

- [Y] WO 2004043886 A2 20040527 - NUCYCLE THERAPY INC [US], et al
- [Y] WO 2005026375 A2 20050324 - FRAUNHOFER USA INC [US], et al
- [A] WO 2006003018 A2 20060112 - ICON GENETICS AG [DE], et al
- [A] WO 2005049839 A2 20050602 - ICON GENETICS AG [DE], et al
- [A] WO 2005081905 A2 20050909 - FRAUNHOFER USA INC [US], et al
- [XY] MARILLONNET SYLVESTRE ET AL: "Systemic Agrobacterium tumefaciens-mediated transfection of viral replicons for efficient transient expression in plants", NATURE BIOTECHNOLOGY, NATURE PUBLISHING GROUP, NEW YORK, NY, US LNKD- DOI:10.1038/NBT1094, vol. 23, no. 6, 1 June 2005 (2005-06-01), pages 718 - 723, XP002407902, ISSN: 1087-0156
- [XY] WAGNER B ET AL: "Plant virus expression systems for transient production of recombinant allergens in Nicotiana benthamiana", METHODS : A COMPANION TO METHODS IN ENZYMOLOGY, ACADEMIC PRESS INC., NEW YORK, NY, US LNKD- DOI:10.1016/J.YMETH.2003.08.005, vol. 32, no. 3, 1 March 2004 (2004-03-01), pages 227 - 234, XP004488972, ISSN: 1046-2023
- [XPY] MUSIYCHUK KONSTANTIN ET AL: "A launch vector for the production of vaccine antigens in plants", INFLUENZA AND OTHER RESPIRATORY VIRUSES, BLACKWELL PUBLISHING LTD, UK LNKD- DOI:10.1111/J.1750-2659.2006.00005.X, vol. 1, no. 1, 1 January 2007 (2007-01-01), pages 19 - 25, XP009058889, ISSN: 1750-2640, [retrieved on 20070119]
- [A] YUSIBOV VIDADI ET AL: "The potential of plant virus vectors for vaccine production", DRUGS IN R & D, ADIS INTERNATIONAL, AUCKLAND, NZ, vol. 7, no. 4, 1 January 2006 (2006-01-01), pages 203 - 217, XP009133148, ISSN: 1174-5886
- [A] CANIZARES M C ET AL: "Use of viral vectors for vaccine production in plants", IMMUNOLOGY AND CELL BIOLOGY, CARLTON, AU LNKD- DOI:10.1111/J.1440-1711.2005.01339.X, vol. 83, no. 3, 1 June 2005 (2005-06-01), pages 263 - 270, XP002344926, ISSN: 0818-9641
- [T] GREEN BRIAN J ET AL: "Transient protein expression in three Pisum sativum (green pea) varieties", BIOTECHNOLOGY JOURNAL, vol. 4, no. 2, February 2009 (2009-02-01), pages 230 - 237, XP007913294, ISSN: 1860-6768

## Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

## DOCDB simple family (publication)

**WO 2007095304 A2 20070823**; **WO 2007095304 A3 20100121**; AU 2007215066 A1 20070823; BR PI0707785 A2 20110510; CA 2642138 A1 20070823; CN 101815784 A 20100825; EP 1984509 A2 20081029; EP 1984509 A4 20100714; JP 2009528025 A 20090806; KR 20080113372 A 20081230

## DOCDB simple family (application)

**US 2007003942 W 20070213**; AU 2007215066 A 20070213; BR PI0707785 A 20070213; CA 2642138 A 20070213; CN 200780007805 A 20070213; EP 07750761 A 20070213; JP 2008554439 A 20070213; KR 20087022552 A 20080916