



(12) Translation of
European patent specification

(11) NO/EP 2393496 B1

NORWAY

(19) NO
(51) Int Cl.
A61K 31/7052 (2006.01)
A61K 39/12 (2006.01)
A61P 37/02 (2006.01)
C07K 14/00 (2006.01)
C07K 14/005 (2006.01)
C12N 7/00 (2006.01)

Norwegian Industrial Property Office

(21)	Translation Published	2016.12.19
(80)	Date of The European Patent Office Publication of the Granted Patent	2016.08.03
(86)	European Application Nr.	10733940.0
(86)	European Filing Date	2010.01.22
(87)	The European Application's Publication Date	2011.12.14
(30)	Priority	2009.01.23, US, 146942 P 2010.01.21, US, 691588
(84)	Designated Contracting States:	AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
(73)	Proprietor	The Trustees of The University of Pennsylvania, 3160 Chestnut Street, Suite 200, Philadelphia, PA 19104-6283, US-USA
(72)	Inventor	WEINER, David, B., 717 Beacom Lane, Merion, PA 19066, US-USA YAN, Jian, 213 Clamar Avenue, Havertown, PA 19083, US-USA
(74)	Agent or Attorney	Plougmann Vingtoft, Postboks 1003 Sentrum, 0104 OSLO, Norge

(54)	Title	IMPROVED VACCINES FOR HUMAN PAPILLOMA VIRUS AND METHODS FOR USING THE SAME
(56)	References Cited:	WO-A1-2007/119896, WO-A2-99/10375, WO-A2-2007/121894, WO-A2-2008/014521 US-A1- 2005 031 638, YAN J ET AL: "Cellular immunity induced by a novel HPV18 DNA vaccine encoding an E6/E7 fusion consensus protein in mice and rhesus macaques", VACCINE, ELSEVIER LTD, GB, vol. 26, no. 40, 19 September 2008 (2008-09-19), pages 5210-5215, XP025349972, ISSN: 0264-410X [retrieved on 2008-04-14] YAN J ET AL: "Induction of antitumor immunity in vivo following delivery of a novel HPV-16 DNA vaccine encoding an E6/E7 fusion antigen", VACCINE, ELSEVIER LTD, GB, vol. 27, no. 3, 14 January 2009 (2009-01-14), pages 431-440, XP025815588, ISSN: 0264-410X, DOI: 10.1016/J.VACCINE.2008.10.078 [retrieved on 2008-11-18] HIRAO L A ET AL: "Combined effects of IL-12 and electroporation enhances the potency of DNA vaccination in macaques", VACCINE, ELSEVIER LTD, GB, vol. 26, no. 25, 13 June 2008 (2008-06-13) , pages 3112-3120, XP022710593, ISSN: 0264-410X, DOI: 10.1016/J.VACCINE.2008.02.036 [retrieved on 2008-03-11] HIRAO ET AL: "Intradermal/subcutaneous immunization by electroporation improves plasmid vaccine delivery and potency in pigs and rhesus macaques", VACCINE, ELSEVIER LTD, GB, vol. 26, no. 3, 8 November 2007 (2007-11-08), pages 440-448, XP022419024, ISSN: 0264-410X, DOI: 10.1016/J.VACCINE.2007.10.041 A. LUCKAY ET AL: "Effect of Plasmid DNA Vaccine Design and In Vivo Electroporation on the Resulting Vaccine-Specific Immune Responses in Rhesus Macaques", JOURNAL OF VIROLOGY, vol. 81, no. 10, 15 May 2007 (2007-05-15), pages 5257-5269, XP55033156, ISSN: 0022-538X, DOI: 10.1128/JVI.00055-07 MAHDAVI ET AL ET AL.: 'Vaccines Against Human Papillomavirus and Cervical Cancer: Promises and Challenges.' THE ONCOLOGIST vol. 10, no. 7, August 2005, pages 528 - 538, XP002501460

Enclosed is a translation of the patent claims in Norwegian. Please note that as per the Norwegian Patents Acts, section 66i the patent will receive protection in Norway only as far as there is agreement between the translation and the language of the application/patent granted at the EPO. In matters concerning the validity of the patent, language of the application/patent granted at the EPO will be used as the basis for the decision. The patent documents published by the EPO are available through Espacenet (<http://worldwide.espacenet.com>) or via the search engine on our website here: <https://search.patentstyret.no/>

Patentkrav

- 5 **1.** Et nukleinsyremolekyl som omfatter en nukleotidsekvens valgt fra gruppen bestående av: SEQ ID NO: 1 og SEQ ID NO: 5.
- 2.** Nukleinsyremolekyl ifølge krav 1, hvor nevnte molekyl er et plasmid.
- 10 **3.** En farmasøytisk sammensetning som omfatter et nukleinsyremolekyl ifølge krav 1.
- 4.** En rekombinant vaksine som omfatter et nukleinsyremolekyl ifølge krav 1.
- 15 **5.** Rekombinant vaksine ifølge krav 4, hvor nevnte rekombinante vaksine er en rekombinant vaccinia-vaksine.
- 6.** En levende, svekket vaksine som omfatter et nukleinsyremolekyl ifølge krav 1.
- 20 **7.** Nukleinsyremolekyl ifølge krav 1, eller rekombinant vaksine ifølge krav 4 eller krav 5, eller levende, svekket vaksine ifølge krav 6, for anvendelse ved vaksinerings av et individ mot HPV.
- 8.** Nukleinsyremolekyl for anvendelse ifølge krav 7, hvor nukleinsyremolekylet er for innføring i individet ved elektroporering.
- 25 **9.** Nukleinsyremolekyl, rekombinant vaksine eller levende, svekket vaksine for anvendelse som angitt i krav 7, hvor individet er blitt diagnostisert til å ha HPV-infeksjon.