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- (71) Applicant (for all designated States except US): **DY-NAVAX TECHNOLOGIES CORPORATION** [US/US]; Suite 100, 717 Potter Street, Berkeley, CA 94710 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **FEARON, Karen, L.** [US/US]; 4064 Valente Court, Lafayette, CA 94549 (US). **DINA, Dino** [US/US]; 6140 Buena Vista Avenue, Oakland, CA 94618 (US).
- (74) Agent: **BUFFINGER, Nicholas, S.**; Morrison & Foerster LLP, 755 Page Mill Road, Palo Alto, CA 94304-1018 (US).
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(54) Title: IMMUNOMODULATORY COMPOSITIONS, FORMULATIONS, AND METHODS FOR USE THEREOF

(57) Abstract: The invention provides new compositions and methods for immunomodulation of individuals. Immunomodulation is accomplished by administration of immunomodulatory polynucleotide/microcarrier (IMO/MC) complexes comprising 3-6mer immunomodulatory oligonucleotides. The IMO/MC complexes may be covalently or non-covalently bound. Also provided are immunomodulatory compositions comprising a 3-6mer IMO encapsulated in an MC.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/25123

A. CLASSIFICATION OF SUBJECT MATTER
 IPC(7) : A61K 48/00, 31/16, 31/164, 31/255
 US CL : 514/44, 19, 533, 616; 560/34, 149
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
 Minimum documentation searched (classification system followed by classification symbols)
 U.S. : 514/44, 19, 533, 616; 560/34, 149

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 None

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	SINGH et al. Advances in vaccine adjuvants. Nat. Biotech., 1999, Vol. 17, 1075-1081, see entire document.	1-63
Y	LUDEWIG et al. In vivo antigen loading and activation of dendritic cells via a liposomal peptide vaccine mediates protective antiviral and anti-tumour immunity. Vaccine, 2001, Vol. 19, pages 23-32, see entire document.	1-63
Y	GURSEL et al. Immunoadjuvant action of plasmid DNA in liposomes. Vaccine, 2000, Vol. 17, page 1376-1383, see entire document.	1-63
Y	WEERATNA. R.D. et al. CpG DNA induces stronger immune responses with less toxicity than other adjuvants. 2000. Vaccine, Vol. 18, pages 1755-1762, see entire document.	1-63

Further documents are listed in the continuation of Box C. See patent family annex.

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"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

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Name and mailing address of the ISA/US
 Mail Stop PCT, Attn: ISA/US
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 Facsimile No. (703)305-3230

Authorized officer
Felicia D. Roberts for
 Anne Marie S. Wehbe
 Telephone No. 703-308-1235

INTERNATIONAL SEARCH REPORT

PCT/US02/25123

Continuation of B. FIELDS SEARCHED Item 3:

DIALOG-Medline, Embase, Cancerlit, Scisearch, Biosis; BRS/EAST-EPO, JPO, Derwint, USPatfull

search terms: immunomodulatory, immunostimulatory, adjuvants, liposomes, ODNs, CpG, CpG-S, oligonucleotides