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(54) Title: DRY FORMULATION FOR TRANSCUTANEOUS IMMUNIZATION

(57) Abstract: A transcutaneous immunization system delivers antigen to immune cells through the skin, and induces an immune response in an animal or human. For example, a skin-active adjuvant (e.g., an ADP-ribosylating exotoxin) can be used to induce an antigen-specific immune response (e.g., humoral and/or cellular effectors) after transcutaneous application of a dry formulation containing antigen and adjuvant to skin of the animal or human. The dry formulation may be a powder or a unit-dose patch. Use of adjuvant is not required if the antigen is sufficiently antigenic. Transcutaneous immunization may be induced with or without penetration enhancement.

INTERNATIONAL SEARCH REPORT

Inter nnai Application No PCI/US 00/08714

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 A61K39/39 A61K48/00 A61P33/00

A61K9/00

A61P35/00

A61P31/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

 $\begin{tabular}{ll} \begin{tabular}{ll} Minimum documentation searched (classification system followed by classification symbols) \\ IPC 7 & A61K \end{tabular}$

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS

Category °		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 98 20734 A (ALVING CARL R ;US ARMY (US); GLENN GREGORY M (US)) 22 May 1998 (1998-05-22) cited in the application page 3, line 29 -page 8, line 27 page 29, line 25 -page 30, line 12 page 35, line 34 -page 37, line 8; claims	1-46

X Further documents are listed in the continuation of box C.	Patent family members are listed in annex.
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "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) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "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 "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 combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family
Date of the actual completion of the international search 24 October 2000	Date of mailing of the international search report $31/10/2000$
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentiaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Ryckebosch, A

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INTERNATIONAL SEARCH REPORT

Inter anal Application No
PC i / US 00/08714

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