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61/531,215	6 September 2011 (06.09.2011)	US
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[Continued on next page]

(54) Title: TOLEROGENIC SYNTHETIC NANOCARRIERS FOR ANTIGEN-SPECIFIC DELETION OF T EFFECTOR CELLS

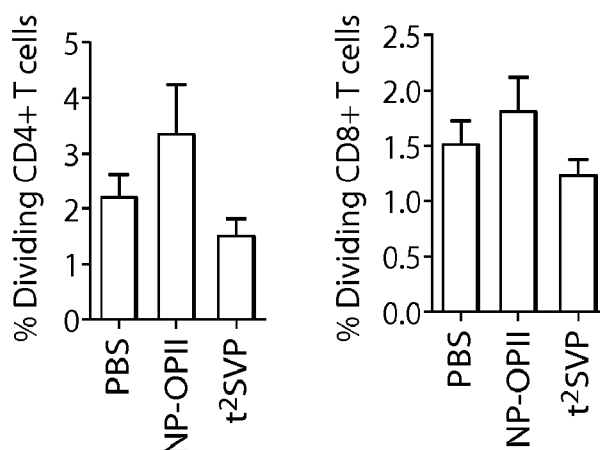


Fig. 5

(57) Abstract: Disclosed are synthetic nanocarrier methods, and related compositions, comprising administering immunosuppressants and MHC Class I-restricted and/or MHC Class II-restricted epitopes that can generate tolerogenic immune responses (e.g., antigen-specific T effector cell deletion).



Published:

- *with international search report (Art. 21(3))*
- *with sequence listing part of description (Rule 5.2(a))*

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see Notice of 24 January 2013

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/035555**A. CLASSIFICATION OF SUBJECT MATTER*****A61K 47/48(2006.01)i, A61K 47/30(2006.01)i, A61K 9/127(2006.01)i, A61K 39/38(2006.01)i, A61K 31/445(2006.01)i***

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)

A61K 47/48; A61K 9/14; A61K 39/00; A61K 9/48; A61K 9/127; A61K 38/20

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal), PubMed, google, google scholar

& Keywords: nanocarrier, MHC, antigen, immuhosuppressant

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2010-0151000 A1 (THOMAS RANJENY et al.) 17 June 2010 See paragraphs [0001], [0019], [0043], [0046]-[0047], [0078], [0086], [0138], claims 1-2, 4, 6, 12, 16.	36-38,43,46,47
X	US 2010-0129439 A1 (ALEXIS FRANK et al.) 27 May 2010 See paragraphs [0011], [0029], [0223]-[0225], [0489], [0493], [0531], [0533], [0577], claim 1, examples 5, 7, 11.	36-38,43,46,47
A	WO 2010-138192 A2 (SELECTA BIOSCIENCES, INC. et al.) 02 December 2010 See page 24, lines 12-18, page 41, line 1, lines 32-42, page 42, lines 15-17, claims 1, 14-15.	36-38,43,46,47
A	US 2011-0070154 A1 (HYDE RODERICK A. et al.) 24 March 2011 See paragraph [0067], claims 1, 38-39, 72, 106.	36-38,43,46,47



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"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 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

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2012/035555**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 1-35
because they relate to subject matter not required to be searched by this Authority, namely:
Claims 1-35 pertain to methods for treatment of the human body by therapy, and thus relate to a subject matter which this International Searching Authority is not required, under Article 17(2)(a)(i) of the PCT and Rule 39.1(iv) of the Regulations under the PCT, to search.
2. ☒ Claims Nos.: 5,17,19-24,26,30-33,40,49
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
Claims 5,17,19-24,26,30-33,41,50 are unclear since they are referring to the multiple dependent claims.
3. ☒ Claims Nos.: 5-14,16,18,25,27-29,34,35,39,41,42,44,45,48,50,51
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

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