Abstract: The invention is directed to modified T cells, methods of making and using isolated, modified T cells, and methods of using these isolated, modified T cells to address diseases and disorders. In one embodiment, this invention broadly relates to TCR-deficient T cells, isolated populations thereof, and compositions comprising the same. In another embodiment of the invention, these TCR-deficient T cells are designed to express a functional non-TCR receptor. The invention also pertains to methods of making said TCR-deficient T cells, and methods of reducing or ameliorating, or preventing or treating, diseases and disorders using said TCR-deficient T cells, populations thereof, or compositions comprising the same.
A. CLASSIFICATION OF SUBJECT MATTER

C12N 5/0783(2010.01); C12N 5/10(2006.01); C07K 14/725(2006.01); A61K 35/26(2006.01); A61K 35/00(2006.01); A61P 35/00(2006.01)

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)

C12N 5/0783

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) & Keywords: TCR-deficient, TCR KO, TCR shRNA, TCR siRNA, TCR knockdown,

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
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</table>

* 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

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"D" 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

"A" document member of the same patent family

Date of the actual completion of the international search 07 JULY 2011 (07.07.2011)

Date of mailing of the international search report 08 JULY 2011 (08.07.2011)

Name and mailing address of the ISA/KR

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Facsimile No. 82-42-472-7140

Authorized officer

Kim Seung Beom

Telephone No. 82-42-481-8746

Form PCT/ISA/210 (second sheet) (My 2009)
INTERNATIONAL SEARCH REPORT

<table>
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<tr>
<th>Box No. II</th>
<th>Observations where certain claims were found unsearable (Continuation of item 2 of first sheet)</th>
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</table>

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.: 20-31**
   Because they relate to subject matter not required to be searched by this Authority, namely:
   - Claims 20-31 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.: 7-10, 12, 14, 18, 19, 20-25**
   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 7-1((dependent on claim 6), 12(dependent on claim 11), Independent on claim 13), 18 and 19(dependent on claim 17), and 20-25(dependent on claim 18) are in reference to multiple dependent claims, which are not subjected to the meaningful search in accordance with the second and the third sentences of Rule 6.4(a). [Article 17(2)(a)(ii), Article 6 PCT].

3. **Claims Nos.: 6, 11, 13, 17, 26-31**
   Because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

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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.
<table>
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<th>Patent document cited in search report</th>
<th>Publication date</th>
<th>Patent family member(s)</th>
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