

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

|   |  |   |
|---|--|---|
| Applicant's or agent's file reference<br>DUG-1 PCT        | <b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, item 5 below. |   |
| International application No.<br><b>PCT/US2009/047684</b> | International filing date ( <i>day/month/year</i> )<br><b>17 JUNE 2009 (17.06.2009)</b>    | (Earliest) Priority Date ( <i>day/month/year</i> )<br>20 JUNE 2008 (20.06.2008) |
| Applicant<br><b>DUGGAL NEIL et al</b>                     |  |   |

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 5 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

the international application in the language in which it was filed

a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b.  This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c.  With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2.  **Certain claims were found unsearchable** (See Box No. II)

3.  **Unity of invention is lacking** (See Box No. III)

4. With regard to the **title**,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the **drawings** to be published with the abstract is Figure No. 1

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

b.  none of the figure is to be published with the abstract.

**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.: 32-39  
because they relate to subject matter not required to be searched by this Authority, namely:  
Claims 32-39 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.:  
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:
3.  Claims Nos.:  
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.

**A. CLASSIFICATION OF SUBJECT MATTER***A61B 17/70(2006.01)i, A61F 2/44(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)

IPC 8 A61B, A61F

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 since 1975

Japanese Utility models and applications for Utility models since 1975

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

eKOMPASS(KIPO internal)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category* | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |
|-----------|--|-----------------------|
| A         | US 2004/49190 A1(LUTZ BIEDERMANN et al.) 11 MAY 2004<br>See abstract, figs. 1, 2, paragraphs [9], [15], [26]-[28], [31], claim 1                                 | 1-31                  |
| A         | US 2005/203511 A1(JAMES WILSON-MACDONALD et al.) 15 SEPTEMBER 2005<br>See abstract, figs. 1,3, paragraphs [38], [39], [41], [49], [50], claim 1                  | 1-31                  |
| A         | US 2006/247637 A1(DENNIS COLLERAN et al.) 02 NOVEMBER 2006<br>See abstract, figs. 1A, 4A, 4B, 10A, 10F, 10G, paragraphs [2], [33]-[36], [78], [126]-[128], [135] | 1-31                  |
| A         | US 2006/84982 A1(DANIEL H. KIM) 20 APRIL 2006<br>See abstract, figs. 3B, 4A, 8, 10B, 31, 32A, paragraphs [1], [64], [70], [71], [87]                             | 1-31                  |

 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

"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)

"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

"&amp;" document member of the same patent family

Date of the actual completion of the international search

14 JANUARY 2010 (14.01.2010)

Date of mailing of the international search report

**18 JANUARY 2010 (18.01.2010)**

Name and mailing address of the ISA/KR

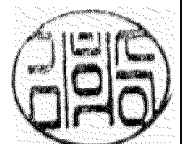
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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2009/047684**

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|--|------------------|-------------------------|------------------|
| US 2004-0049190 A1                     | 11.03.2004       | DE 50306246 D1          | 22.02.2007       |
|  |                  | DE 10236691 B4          | 01.12.2005       |
|  |                  | DE 10236691 A1          | 26.02.2004       |
|  |                  | EP 1388323 A1           | 11.02.2004       |
|  |                  | EP 1388323 B1           | 10.01.2007       |
|  |                  | JP 2004-073855 A        | 11.03.2004       |
|  |                  | KR 20040014202 A        | 14.02.2004       |
|  |                  | KR 10-0780852 B1        | 29.11.2007       |
| US 2005-0203511 A1                     | 15.09.2005       | AU 2005-220054 A1       | 02.03.2005       |
|  |                  | EP 1729663 A1           | 13.12.2006       |
|  |                  | GB 0404702 D0           | 07.04.2004       |
|  |                  | GB 2412320 A            | 28.09.2005       |
|  |                  | WO 2005-084567 A1       | 15.09.2005       |
| US 2006-0247637 A1                     | 02.11.2006       | AU 2005-274013 A1       | 08.08.2005       |
|  |                  | CA 2574277 A1           | 23.02.2006       |
|  |                  | EP 1776053 A2           | 25.04.2007       |
|  |                  | US 2008-0154307 A1      | 26.06.2008       |
|  |                  | US 2006-0036240 A1      | 16.02.2006       |
|  |                  | WO 2006-020530 A2       | 23.02.2006       |
|  |                  | WO 2006-020530 A3       | 23.02.2006       |
| US 2006-0084982 A1                     | 20.04.2006       | AU 2008-229323 A1       | 25.09.2008       |
|  |                  | AU 2007-328463 A1       | 15.05.2007       |
|  |                  | AU 2007-254366 A1       | 15.05.2007       |
|  |                  | AU 2007-235543 A1       | 23.02.2007       |
|  |                  | AU 2006-272755 A1       | 20.07.2006       |
|  |                  | AU 2005-295209 A1       | 20.10.2005       |
|  |                  | CA 2582118 A1           | 27.04.2006       |
|  |                  | CA 2652447 A1           | 12.06.2008       |
|  |                  | CA 2652134 A1           | 29.11.2007       |
|  |                  | CA 2650223 A1           | 18.10.2007       |
|  |                  | CA 2616197 A1           | 01.02.2007       |
|  |                  | EP 2018126 A2           | 28.01.2009       |
|  |                  | EP 2018124 A2           | 28.01.2009       |
|  |                  | EP 1909663 A2           | 16.04.2008       |
|  |                  | EP 1802240 A2           | 04.07.2007       |
|  |                  | EP 2049028 A2           | 22.04.2009       |
|  |                  | US 2008-0262554 A1      | 23.10.2008       |
|  |                  | US 2008-0183215 A1      | 31.07.2008       |
|  |                  | US 2008-0097441 A1      | 24.04.2008       |
|  |                  | US 2007-0239159 A1      | 11.10.2007       |
| US 2007-0225713 A1                     | 27.09.2007       |                         |                  |
| US 2007-0225712 A1                     | 27.09.2007       |                         |                  |
| US 2007-0219556 A1                     | 20.09.2007       |                         |                  |
| US 2007-0167949 A1                     | 19.07.2007       |                         |                  |
| US 2007-0100341 A1                     | 03.05.2007       |                         |                  |

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2009/047684**

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
|---|---------------------|----------------------------|---------------------|
|   |                     | US 2007-0043359 A1         | 22.02.2007          |
|   |                     | US 2006-0084987 A1         | 20.04.2006          |
|   |                     | US 2006-0084984 A1         | 20.04.2006          |
|   |                     | WO 2008-140756 A2          | 20.11.2008          |
|   |                     | WO 2008-140756 A3          | 20.11.2008          |
|   |                     | WO 2008-069835 A3          | 12.06.2008          |
|   |                     | WO 2008-069835 A2          | 12.06.2008          |
|   |                     | WO 2007-136612 A3          | 29.11.2007          |
|   |                     | WO 2007-136612 A2          | 29.11.2007          |
|   |                     | WO 2007-117366 A3          | 18.10.2007          |
|   |                     | WO 2007-117366 A2          | 18.10.2007          |
|   |                     | WO 2007-014119 A3          | 01.02.2007          |
|   |                     | WO 2007-014119 A2          | 01.02.2007          |
|   |                     | WO 2006-045091 A3          | 27.04.2006          |
|   |                     | WO 2006-045091 A2          | 27.04.2006          |
|   |                     | WO 2006-045091 A9          | 17.08.2006          |
|   |                     | WO 2006-045091 A3          | 26.05.2006          |
|   |                     | WO 2008-115549 A1          | 25.09.2008          |