Title: COMPOSITIONS AND METHODS FOR HEALTHY PREGNANCY

Abstract: The present invention provides compositions, kits and methods for the prevention of spontaneous abortion or implantation failure during assisted reproduction. The compositions, kits and methods provide an effective amount of granulocyte colony stimulating factor to prevent spontaneous abortion or implantation failure of an embryo. The present invention also provides compositions, kits and methods for the treatment or prevention of preeclampsia and preterm labor.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC: A61K 38/00(2006.01); C07K 14/00(2006.01), 5/04(2006.01)

USPC: 514/2,530/350,351; 536/18.7
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.: 514/2,530/350,351; 536/18.7

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 practicable, search terms used)
Please See Continuation Sheet

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>
</thead>
</table>

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

Date of the actual completion of the international search: 17 September 2007 (17.09.2007)
Date of mailing of the international search report: 19 OCT 2007

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. (571) 273-3201

Authorized Officer
Valerie Bell

Telephone No. (571) 272-1600

Form PCT/ISA/210 (second sheet) (April 2005)
**INTERNATIONAL SEARCH REPORT**

<table>
<thead>
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<th>Box No. II</th>
<th>Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)</th>
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<td></td>
<td>This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:</td>
</tr>
<tr>
<td>1.</td>
<td>□ Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:</td>
</tr>
<tr>
<td>2.</td>
<td>□ 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:</td>
</tr>
<tr>
<td>3.</td>
<td>□ Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).</td>
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<th>Observations where unity of invention is lacking (Continuation of item 3 of first sheet)</th>
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<tr>
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<td>This International Searching Authority found multiple inventions in this international application, as follows:</td>
</tr>
<tr>
<td></td>
<td>Please See Continuation Sheet</td>
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</tbody>
</table>

| 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 additional fees, this Authority did not invite payment of any additional fees. |
| 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.: 1-8,13-17,24,30 and 34 |

**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.

*Form PCT/ISA/210 (continuation of first sheet(2)) (April 2005)*
BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING
This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group 1, claim(s) 1-8, 13-17, in part, 24, 30 and 34 are drawn to a method of preventing spontaneous abortion in a subject in need thereof comprising administering to the subject an effective amount of granulocyte colony stimulating factor (G-CSF) to prevent spontaneous abortion and a kit for treating or preventing a disease comprising an effective amount of G-CSF and labeling instructions for using the G-CSF to treat or prevent a disease.

Group 2, claim(s) 9-12, 13-17, in part, drawn to a method of preventing spontaneous abortion in a subject in need thereof comprising administering to the subject an effective amount G-CSF mobilized peripheral blood stem cells.

Group 3, claim(s) 18-23, 38, in part, drawn to a method of preventing implantation failure during assisted reproduction in a subject in need thereof comprising administering to the subject an effective amount of G-CSF.

Group 4, claim(s) 25, 38, in part, drawn to a method of preventing implantation failure during assisted reproduction in a subject in need thereof comprising administering to the subject an effective amount G-CSF mobilized peripheral blood stem cells.

Group 5, claim(s) 26-29, 39, drawn to a method of treating or preventing preeclampsia in a subject in need thereof comprising administering to the subject an effective amount of G-CSF.

Group 6, claim(s) 31-33, 44, drawn to a method of treating or preventing labor in a subject in need thereof comprising administering to the subject an effective amount of G-CSF.

Group 7, claim(s) 35-37, drawn to a method of identifying a patient at risk of having difficulty in sustaining a pregnancy or difficulty in having in vitro fertilized embryos implant comprising obtaining a tissue sample from said patient and determining whether Th1 cell number or a Th1 cell product is elevated; a Th2 cell number or a Th2 cell product is decreased; or both.
Continuation of B. FIELDS SEARCHED Item 3:
EAST, MEDLINE, CAPLUS, BIOSIS, USPCTFULL
G-CSF, GCSF, growth factors, abortion, spontaneous, immuno? kit, instruction,