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(71) Applicant: PROMETHEON PHARMA, LLC [US/US];
3005 SW 70th Lane, Gainesville, FL 32608 (US).

(72) Inventor: HSU, Stephen, I-Hong; 3005 SW 70th Lane,
Gainesville, FL 32608 (US).

(74) Agents: HSI, Jeffrey, D. et al.; Edwards Wildman Palmer
LLP, P.O. Box 55874, Boston, MA 02205 (US).

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(54) Title: DEVICES, SYSTEMS, AND METHODS FOR TRANSDERMAL DELIVERY OF COMPOUNDS

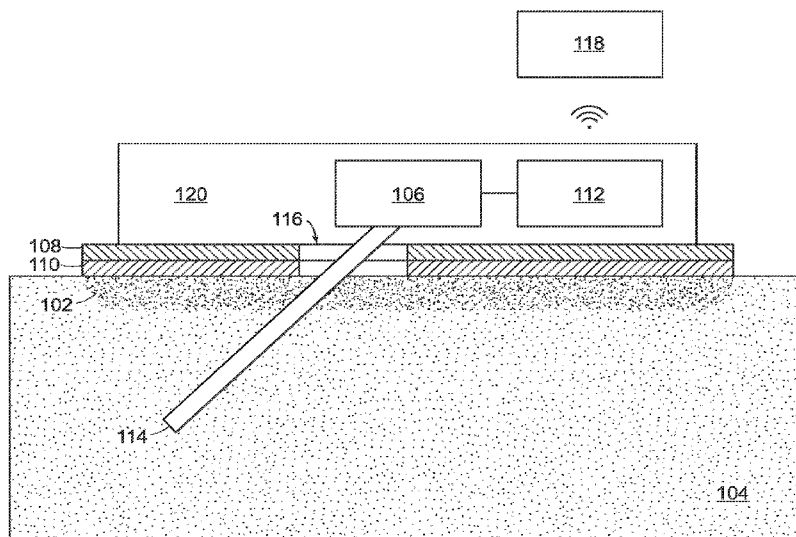


FIG. 1

(57) Abstract: A device for measurement and monitoring of a subject simultaneously with transdermal or transmucosal delivery of a therapeutic agent at a contact site with the subject's skin includes a transdermal sensor adapted and configured to detect a specific indicator that is either the therapeutic agent itself or a biomarker that is affected by the therapeutic agent, a therapeutic-agent-containing formulation for passive or active transdermal drug delivery, wherein the formulation includes a dermoadhesive agent to adhere the underside of the sensor housing unit to the skin, and a separate circumferential self-adhesive patch can be adapted and configured to hold the sensor and its housing unit firmly to the skin at the contact site for multiple days.



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2014/030259

A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - A61M 5/168 (2014.01) USPC - A61M 5/168 (2014.09) 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 5/04, 5/0492, 5/05, A61M 5/142, 5/168, 37/00, 2037/0007, 2037/0023 (2014.01) CPC - A61B 5/0492, 5/168, 5/685; A61M 5/142, 25/02, 35/00, 37/00, 37/0015, 2037/0007, 2037/0023 (2014.09) Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched USPC - 600/309, 547, 556; 604/19, 20, 22, 27 30, 31, 66-67, 151, 289, 290, 305, 501 Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Orbit, Google Patents, Google Scholar																										
C. DOCUMENTS CONSIDERED TO BE RELEVANT <table border="1"> <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> <tbody> <tr> <td>X</td> <td>US 2010/0256593 A1 (YODFAT et al) 07 October 2010 (07.10.2010) entire document</td> <td>1-7,10-15,17,22,27,30-36,37b,38-39</td> </tr> <tr> <td>Y</td> <td></td> <td>8-9,16,18-21,23-26,28-29,37a,42-44</td> </tr> <tr> <td>Y</td> <td>US 5,820,622 A (GROSS et al) 13 October 1998 (13.10.1998) entire document</td> <td>8-9</td> </tr> <tr> <td>Y</td> <td>WO 2012/135422 A2 (HSU) 04 October 2012 (04.10.2012) entire document</td> <td>16,18-20,23-26</td> </tr> <tr> <td>Y</td> <td>US 5,213,568 A (LATTIN et al) 25 May 1993 (25.05.1993) entire document</td> <td>21,37a</td> </tr> <tr> <td>Y</td> <td>US 2009/0259176 A1 (YAIRI) 15 October 2009 (15.10.2009) entire document</td> <td>28-29</td> </tr> <tr> <td>Y</td> <td>US 3,814,095 A (LUBENS) 04 June 1974 (04.06.1974) entire document</td> <td>42-44</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	US 2010/0256593 A1 (YODFAT et al) 07 October 2010 (07.10.2010) entire document	1-7,10-15,17,22,27,30-36,37b,38-39	Y		8-9,16,18-21,23-26,28-29,37a,42-44	Y	US 5,820,622 A (GROSS et al) 13 October 1998 (13.10.1998) entire document	8-9	Y	WO 2012/135422 A2 (HSU) 04 October 2012 (04.10.2012) entire document	16,18-20,23-26	Y	US 5,213,568 A (LATTIN et al) 25 May 1993 (25.05.1993) entire document	21,37a	Y	US 2009/0259176 A1 (YAIRI) 15 October 2009 (15.10.2009) entire document	28-29	Y	US 3,814,095 A (LUBENS) 04 June 1974 (04.06.1974) entire document	42-44
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☐ Further documents are listed in the continuation of Box C. ☐																										
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Date of the actual completion of the international search 02 October 2014		Date of mailing of the international search report 24 OCT 2014																								
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: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774																								

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2014/030259

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.:
because they relate to subject matter not required to be searched by this Authority, namely:

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:
See extra sheet

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 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.:
1-39, 43, 44

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.