5-AMINOLEVULINIC ACID AND ESTERS, IN COMBINATION WITH ANOTHER PHOTOSENSITIZER, AS PHOTOSENSITIZING AGENTS IN PHOTOCHEMOTHERAPY, AND THEIR USES IN TREATING WOUNDS

Abstract: The method relates to the use of a photosensitizer selected from 5-aminolevulinic acid (5-ALA) and 5-ALA derivatives, and pharmaceutically acceptable salts thereof, in the manufacture of a medicament for use in treating a wound. Examples of wounds which may be treated in accordance with the invention include those resulting from non-physiological processes, e.g., from surgery or from physical injury, abrasions, lacerations, and wounds arising from a thermal injury (e.g., a burn or a wound arising from any cryo-based treatment). Ulcers, e.g., leg ulcers, venous ulcers and gastric ulcers, may also be successfully treated in accordance with the methods of the invention.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K31/197 A61K41/00

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 7 A61K

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 practical, search terms used)
EPO-Internal, WPI Data, PAJ, MEDLINE, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
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<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tr>
<td>X, P</td>
<td>WO 02 10120 A (GOLDING LOUISE ; BRAENDEN JON ERIK (NO); GODAL ASLAK (NO); PHOTOCUR) 7 February 2002 (2002-02-07) cited in the application the whole document</td>
<td>1-10, 12-21</td>
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<td>X</td>
<td>US 5 913 884 A (HAMBLIN MICHAEL R ET AL) 22 June 1999 (1999-06-22) the whole document</td>
<td>1, 3, 9, 10, 16, 17</td>
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Further documents are listed in the continuation of box C.
Patent family members are listed in 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 document 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 another 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

Date of the actual completion of the international search
14 January 2003

Date of mailing of the international search report
30/01/2003

Name and mailing address of the ISA
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Tel.: (+31-70) 340-2040, Tx: 31 651 epo nl, Fax: (+31-70) 340-3016

Authorized officer
Vadot, P

Form PCT/ISA/210 (second sheet) (July 1992)
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<td>KARRER S ET AL: &quot;PHOTODYNAMIC INACTIVATION OF STAPHYLOCOCCI WITH 5-AMINOLAEVULINIC ACID OR PHOTOFIRN&quot; LASERS IN MEDICAL SCIENCE, XX, XX, vol. 14, no. 1, 1999, pages 54-61, XP001015928 ISSN: 0268-8921 abstract page 59, left-hand column, line 17 - line 19 ---</td>
<td>1,12,20</td>
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<td>PHOTOCURE : &quot;Metvix&quot; INTERNET, ‘Online! XP002224954 Retrieved from the Internet: <a href="">URL:www.photocure.com</a> ‘retrieved on 2002-12-12! Item Products and technologies : Photochemical synergism and Overview of R&amp;D programs ----</td>
<td>1,9,10,16</td>
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INTERNATIONAL SEARCH REPORT

Box I  Observations where certain claims were found unsearchable (Continuation of Item 1 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. [X] Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
   Although claims 13-15 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

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 II  Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

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

see additional sheet

1. [ ] As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. [X] 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.

[ ] No protest accompanied the payment of additional search fees.
This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-15
   the compound 5-ALA is now used in treating wounds

2. Claims: 16-21
   Use of this last compound in combination with another photosensitizer for the treatment of wounds
<table>
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<tr>
<th>Patent document cited in search report</th>
<th>Publication date</th>
<th>Patent family member(s)</th>
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<tbody>
<tr>
<td>WO 0210120 A</td>
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<td>AU 2749502 A</td>
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<td>US 6107466 A</td>
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