



- (51) International Patent Classification:
A61K 38/16 (2006.01) *A61P 31/18* (2006.01)
A61P 31/12 (2006.01) *A61K 38/21* (2006.01)
- (21) International Application Number:
PCT/US2009/046123
- (22) International Filing Date:
3 June 2009 (03.06.2009)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
61/058,536 3 June 2008 (03.06.2008) US
- (71) Applicant (*for all designated States except US*):
AETHLON MEDICAL INC. [US/US]; 3030 Bunker Hill Street, Suite 400, San Diego, CA 92109 (US).
- (72) Inventors; and
(75) Inventors/Applicants (*for US only*): **TULLIS, Richard, H.** [US/US]; 1320 Saxony Road, Encinitas, CA 92024 (US). **HANDLEY, Harold, H., Jr.** [US/US]; 705 Arden Drive, Encinitas, CA 92024 (US). **DUFFIN, R., Paul** [US/US]; 2736 Worden Street, San Diego, CA 92110 (US). **JOYCE, James, A.** [US/US]; 4119 Lymer Street, San Diego, CA 92116 (US).
- (74) Agent: **MALLON, Joseph, J.**; Knobbe Martens Olson & Bear LLP, 2040 Main Street, 14th Floor, Irvine, CA 92614 (US).

[Continued on next page]

(54) Title: ENHANCED ANTIVIRAL THERAPY METHODS AND DEVICES

(57) Abstract: Embodiments of the present invention relate to enhanced antiviral therapy methods, devices, and kits for treating viral infections. The disclosed enhanced antiviral therapy methods, devices, and kits enhance the efficacy of an antiviral therapy by administering a lectin affinity hemodialysis treatment to an individual suffering from viral infection in combination with the antiviral therapy.

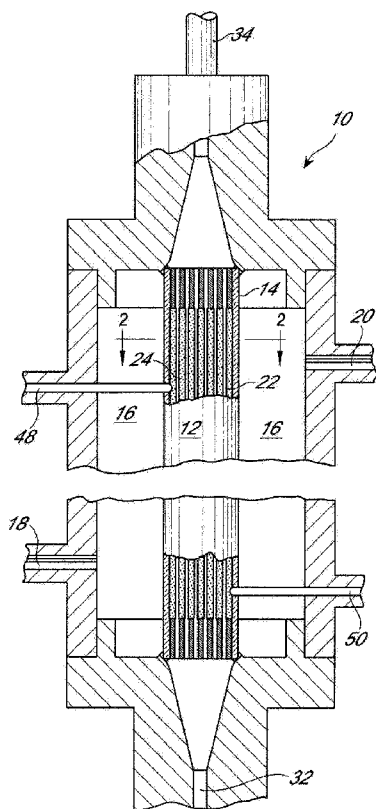


FIG. 1
(PRIOR ART)





(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

Published:

— with international search report (Art. 21(3))

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report:

25 February 2010

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/046123**A. CLASSIFICATION OF SUBJECT MATTER****A61K 38/16(2006.01)i, A61P 31/12(2006.01)i, A61P 31/18(2006.01)i, A61K 38/21(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 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 practicable, search terms used)

e-KOMPASS, PubMed(Keywords: lectin, affinity, hemodialysis, antiviral)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007/0218458 A1 (AETHLON MEDICAL, INC.) 20 September 2007 See the whole document, especially [0015] and all claims.	47-49
X	WO 2004/064608 A2 (AETHLON MEDICAL, INC.) 05 August 2004 See the whole document, especially all claims.	47-49
A	US 5,106,745 A1 (BOARD OF REGENTS, THE UNIVERSITY OF TEXAS SYSTEM) 21 April 1992 See column 8	47-49



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

"&" document member of the same patent family

Date of the actual completion of the international search

29 DECEMBER 2009 (29.12.2009)

Date of mailing of the international search report

07 JANUARY 2010 (07.01.2010)

Name and mailing address of the ISA/KR

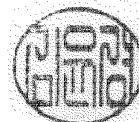
Korean Intellectual Property Office
Government Complex-Daejeon, 139 Seonsa-ro, Seo-
gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

KIM, YUN-KYUNG

Telephone No. 82-42-481-8406



INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2009/046123**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.: 1-46, 52, 53
because they relate to subject matter not required to be searched by this Authority, namely:
Claims 1-46, 52, 53 pertain to methods of treatment of the human 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.: 6, 7, 9, 10, 12, 13, 15-18, 20, 21, 23, 24, 26-30, 40
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 6, 7, 9, 10, 12, 13, 15-18, 20, 21, 23, 24, 26-30, 40 refer to the multiple dependent claims 5, 8, 11, 14, 19, 22, 25, 39 and claims 15, 26, 27, 29 which are unclear.
3. ☒ Claims Nos.: 4, 5, 8, 11, 14, 19, 22, 25, 31-39, 41-46, 50, 51
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.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2009/046123

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007-0218458 A1	20.09.2007	US 07226429 B2 US 2004-0175291 A1	05.06.2007 09.09.2004
WO 2004-064608 A2	05.08.2004	CA 2516403 A1 CN 101124315 A CN 101124315 A0 EP 1624785 A4 EP 1624785 A2 JP 2007-525232 T JP 2007-525232 A RU 2005126058 A WO 2004-064608 A3 WO 2004-064608 A3	05.08.2004 13.02.2008 13.02.2008 17.10.2007 15.02.2006 06.09.2007 06.09.2007 27.01.2006 28.09.2006 05.08.2004
US 5106745 A1	21.04.1992	None	