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(54) Title: ACTIVATED CYTOTOXIC COMPOUNDS FOR ATTACHMENT TO TARGETING MOLECULES FOR THE TREATMENT OF MAMMALIAN DISEASE CONDITIONS

(57) Abstract: Activated cytotoxic compounds are described for attachment to targeting molecules for the treatment of a mammalian disease condition which comprise, an activator, a spacer linker, a linker (e.g., self-immolative), and a cytotoxic drug selected from the group consisting of AMINO-SUBSTITUTED (E)-2,6-DIALKOXYSTYRYL 4-SUBSTITUTED BENZYL SULFONES, AMINO-AND- HYDROXY SUBSTITUTED STYRYLSULFONANILIDES, and SUBSTITUTED PHENOXY- AND PHENYLTHIO-STYRYLSULFONE DERIVATIVES. Activated cytotoxic compound attached to a targeting molecule are described wherein the targeting molecule is selected from the group consisting essentially of an antibody, a receptor, a ligand, a cytokine, a hormone, and a signal transduction molecule. The invention is further directed to a method of treatment of disease conditions.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US07/19943

A. CLASSIFICATION OF SUBJECT MATTER

IPC: C07D 207/12(2006.01);A61K 31/4015(2006.01)

USPC: 548/546;514/425

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. : 548/546;514/425

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)
STN CAPLUS, EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 7,161,031 B2 (REDDY et al) 9 January 2007 (09.01.2007), cols. 59 and 60.	8, 17, and 20
A	US 6,642,410 B2 (REDDY et al) 4 November 2003 (04.11.2003), cols. 8-11 and 19-25.	8, 17, and 20
A	US 6,667,346 B2 (REDDY et al) 23 December 2003 (23.12.2003), cols. 23-39.	8, 17, and 20
A	US 2005/0130942 A1 (REDDY et al) 16 June 2005 (16.06.2005), cols. 33-52.	8, 17, and 20

☐ 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 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

"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

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US07/19943

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.: 1-7,9-16,18 and 19
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:
Please See Continuation Sheet
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 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.:

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

International application No.

PCT/US07/19943

Continuation of Box II Reason 2:

The numerous variables, e.g. all activators, spacer linkers, linkers, etc. and their voluminous and complex meanings and resulting permutations and combinations make it impossible to determine the full scope and complete meaning of the claimed subject matter. As presented, the claimed subject matter cannot be regarded as being clear and concise description for which protection is sought. As such, the listed claims do not comply with the requirements of PCT Article 6. Since it is impossible to carry out a meaningful search on the entirety of the claims, a search will be carried out on the first discernable invention, the invention of Claims 9, 17, and 20.