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(54) Title: CARBOHYDRATE CONJUGATES TO PREVENT ABUSE OF CONTROLLED SUBSTANCES

(57) Abstract: The invention provides a "street-safe" version of a controlled substance that permits the therapeutically beneficial effects of the substance while reducing or eliminating the euphoric effects that lead to substance abuse. The invention provides pharmaceutical compositions comprising a controlled substance and a carbohydrate covalently bound to said controlled substance in a manner that renders said controlled substance pharmacologically inactive or substantially diminishes its activity and methods of using the same.

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**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US04/00646

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : A61K 31/70

US CL : 514/25

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. : 514/25, 36, 960, 21

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)  
CAPLUS, MEDLINE, BIOSIS,

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6, 713, 452 (Ekwuribe et al.) 30 March 2004 (30.03.2004), column 9, lines 55-67.	1-4, 34-37
Y	Pub No. US 2004/0161382 A1 (Yum et al) 19 August 2004 (19.08.2004), page 2, paragraph 16 and 17; page 3, paragraph 37 and 39.	1-4, 34-37
Y	Pub No. US 2003/0130205 A1, 10 July 2003(10.07.2003), page 16, paragraph 118.	1-4, 34-37

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	"T"
"A" document defining the general state of the art which is not considered to be of particular relevance	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
"E" earlier application or patent published on or after the international filing date	"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
"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)	"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
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"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

29 November 2004 (29.11.2004)

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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/00646

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claim Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claim 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:  
Please See Continuation Sheet
  
3.  Claim Nos.: 5-33  
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:

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.

No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

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**Continuation of Box I Reason 2:**

were not searched because they are IMPROPERLY MULTIPLY DEPENDENT as covered by the second and third sentences of PCT rule 6.4(a).