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**Youhoon** [KR/US]; 101 Davis St, B8, Athens, GA 30606  
(US). **STUYVER, Lieven, J.** [BE/US]; 3330 Forrest Bend  
Lane, Snellville, GA 30039 (US).

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(74) Agents: **KNOWLES, Sherry, M.** et al.; King & Spalding,  
191 Peachtree St., Atlanta, GA 30303-1763 (US).

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(71) Applicants (*for all designated States except US*): **PHAR-  
MASSET LTD.** [BB/BB]; c/o Corporate Services Lim-  
ited, The Financial Services Center, Bishop's Ct. Hill, P.O.  
Box 111, St Michael (BB). **UNIVERSITY OF GEOR-  
GIA RESEARCH FOUNDATION, INC.** [US/US]; Boyd  
Graduate Research Foundation, Inc., Athens, GA 30602-  
7411 (US). **EMORY UNIVERSITY** [US/US]; 1380 S.  
Oxford Road, Atlanta, GA 30322 (US).

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(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **CHU, Chung, K.**  
[US/US]; 115 Cedar Springs Place, Athens, GA 30605  
(US). **OTTO, Michael, J.** [US/US]; 1194 Staples Drive,  
Lilburn, GA 30047 (US). **SHI, Junxing** [CN/US]; 3345  
McClure Woods Drive, Duluth, GA 30096 (US). **SCHI-  
NAZI, Raymond, F.** [US/US]; 1524 Regency Walk Drive,  
Decatur, GA 30033 (US). **CHOI, Yongseok** [KR/US]; 825  
Quince Orchard Blvd., Apt. 11, Gaithersburg, MD 20878  
(US). **GUMINA, Giuseppe** [IT/US]; 333 Robert C. Wilson  
Pharmacy Building, Athens, GA 30306 (US). **CHONG,**

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ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.*

(54) Title:  $\beta$ -2'-OR 3'-HALONUCLEOSIDES

(57) Abstract: The present invention includes compounds and compositions of  $\beta$ -halonucleosides, as well as methods to treat HIV, HBV or abnormal cellular proliferation comprising administering said compounds or compositions.



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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/20245

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C07H 19/06; A61K 31/70  
US CL : 536/23,24,26,27,29; 514/49

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. : 536/23,24,26,27,29; 514/49

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
Merck Manual

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
Please See Continuation Sheet

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,963,662 A (MATTHES et al) 16 October 1990 (16.10.1990), columns 1-8.	10,13-15,28-33,44,57-62,75,77-80,84-85,89-92
X --- Y	US 5,215,970 A (DATEMA et al) 01 June 1993 (01.06.1993) columns 4-22.	10-12,14-15,28-30,32-33,57-59,61,62,75-77,79,80 ----- 44,84,85
X	US 4,681,933 A (CHU et al) 21 July 1987 (21.07.1987) columns 3-13.	10,12,15,19,28,,30,32-33,44,57,59,61,62,75,77,79,80
X	US 5,663,154 A (BURNS et al) 02 September 1997 (02.09.1997) columns 1-46.	10-13, 28-31, 44,57-60,75-78,85
X	US 5,446,029 A (ERIKSSON et al) 29 August 1995 (29.08.1995) columns 2-6.	10-15,28-33,57-62,75-80,84,85



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:		"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
"A"	document defining the general state of the art which is not considered to be of particular relevance	"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
"E"	earlier application or patent published on or after the international filing date	"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
"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)	"&"	document member of the same patent family
"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		

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Authorized officer

Howard V Owens

Telephone No. 703-308-1235

## INTERNATIONAL SEARCH REPORT

## C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 5,637,574 A (BURNS et al) 10 June 1997 (10.06.1997) columns 1-20.	11,29,31,58,59,76,78, ----- 84,85
X --- Y	US 5,703,058 A (SCHINAZI et al) 30 December 1997 (30.12.1997) columns 3-22.	1-3,5-9,19-24,48- 50,52-53,66-68,71 ----- 39-44
X	US 5,574,149 A (VAN TUTTLE et al) 12 November 1996 (12.11.1996) columns 1-16.	10,12-15,28,30- 33,57,59-62,75,77-80 ----- 37,38,84,85

# INTERNATIONAL SEARCH REPORT

PCT/US02/20245

## Continuation of B. FIELDS SEARCHED Item 3:

Medline

HCAPLUS

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/20245

### 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:
3. ☒ Claim Nos.: 16-18,25-27, 34-36,54-56,63-65,72-74,81-83 and 86-92  
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.