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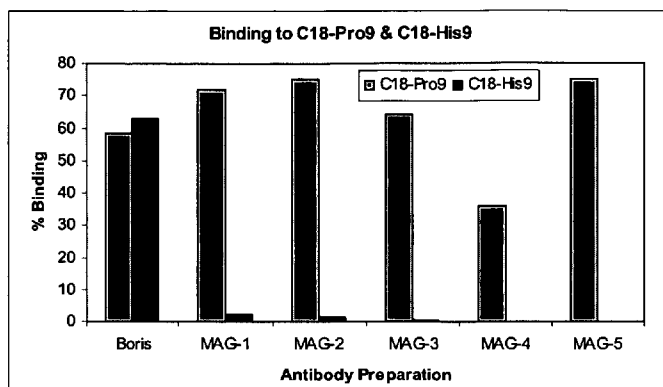
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(54) Title: PEPTIDES, ANTIBODIES, AND USES THEREOF FOR IDENTIFYING AND TARGETING PROVASOPRESSIN-EXPRESSING CANCER CELLS

Figure 1



(57) Abstract: This application provides peptides, antibodies, and antigen-binding portions thereof, for identifying and targeting provasopressin-expressing cancer cells. Also provided are methods of using said compositions, for example to image cancer cells *in vivo* and in biological samples. Also provided are methods of using said compositions for treating patients suffering from a provasopressin-associated cancers, including breast cancer and small cell lung cancer.

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**INTERNATIONAL SEARCH REPORT**

International application No  
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**A. CLASSIFICATION OF SUBJECT MATTER**  
 INV. C07K16/30 A61K39/395

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)  
 C07K

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, BIOSIS

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2004/006860 A (WOOMERA THERAPEUTICS INC [US]; NORTH WILLIAM G [US]; KEEGAN BRENDAN P) 22 January 2004 (2004-01-22) examples 1-4	1-86
X	BRENDAN P KEEGAN ET AL: "Provasopressin expression by breast cancer cells: implications for growth and novel treatment strategies" BREAST CANCER RESEARCH AND TREATMENT, KLUWER ACADEMIC PUBLISHERS, BO, vol. 95, no. 3, 1 February 2006 (2006-02-01), pages 265-277, XP019274974 ISSN: 1573-7217 abstract	1-86

<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.	<input checked="" type="checkbox"/> See patent family annex.
<p>* Special categories of cited documents :</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"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</p> <p>"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</p> <p>"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.</p> <p>"&amp;" document member of the same patent family</p>	
Date of the actual completion of the international search  4 December 2009	Date of mailing of the international search report  11/12/2009
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  Kalsner, Inge

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2009/002938

## Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:
  - a. type of material
    - a sequence listing
    - table(s) related to the sequence listing
  - b. format of material
    - on paper
    - in electronic form
  - c. time of filing/furnishing
    - contained in the international application as filed
    - filed together with the international application in electronic form
    - furnished subsequently to this Authority for the purpose of search
2.  In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

## INTERNATIONAL SEARCH REPORT

International application No

PCT/US2009/002938

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>KEEGAN BRENDAN P ET AL: "Targeting the neurophysin-related cell surface antigen on small cell lung cancer cells using a monoclonal antibody against the glycopeptide region (MAG-1) of provasopressin"  MOLECULAR CANCER THERAPEUTICS, AMERICAN ASSOCIATION OF CANCER RESEARCH, US, vol. 1, no. 13, 1 November 2002 (2002-11-01), pages 1153-1159, XP002399635  ISSN: 1535-7163  abstract</p> <p style="text-align: center;">-----</p>	1-37, 48-60, 68-80, 85,86
X	<p>NORTH WILLIAM G ET AL:  "Immunohistochemical detection of NRSA on small cell lung cancer with a monoclonal antibody (MAG-1) that recognizes the carboxyl terminus of provasopressin"  APPLIED IMMUNOHISTOCHEMISTRY &amp; MOLECULAR MORPHOLOGY,  vol. 13, no. 4, December 2005 (2005-12), pages 363-366, XP009126390  ISSN: 1062-3345  abstract</p> <p style="text-align: center;">-----</p>	1-60,
A	<p>NORTH W G ET AL: "IMMUNOHISTOCHEMICAL EVALUATION OF VASOPRESSIN EXPRESSION IN BREAST FIBROCYSTIC DISEASE AND DUCTAL CARCINOMA IN SITU (DCIS)"  ENDOCRINE PATHOLOGY, HUMANA PRESS, TOTOWA, NJ, US,  vol. 14, no. 3,  1 January 2003 (2003-01-01), pages 257-262, XP008043447  ISSN: 1046-3976  the whole document</p> <p style="text-align: center;">-----</p>	61-64

# INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2004006860 A	22-01-2004	AU 2003251966 A1	02-02-2004
		CA 2492475 A1	22-01-2004
		EP 1539818 A2	15-06-2005
		JP 2006505510 T	16-02-2006
		US 2008050376 A1	28-02-2008

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