



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : A61K 38/18, A61P 35/00	A3	(11) International Publication Number: WO 00/29012 (43) International Publication Date: 25 May 2000 (25.05.00)
(21) International Application Number: PCT/US99/26636 (22) International Filing Date: 12 November 1999 (12.11.99) (30) Priority Data: 09/191,239 13 November 1998 (13.11.98) US (63) Related by Continuation (CON) or Continuation-in-Part (CIP) to Earlier Application US 09/191,239 (CIP) Filed on 13 November 1998 (13.11.98) (71) Applicant (for all designated States except US): CREATIVE BIOMOLECULES, INC. [US/US]; Suite 2400, 101 Huntington Avenue, Boston, MA 02199 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): SAMPATH, Kuber, T. [US/US]; 98 Pamela Drive, Holliston, MA 01746 (US). COHEN, Charles, M. [US/US]; 1 Harrington Lane, Weston, MA 02193 (US). RUEGER, David, C. [US/US]; 81 Pine Hill Road, Southborough, MA 01772 (US). (74) Agent: ELRIFI, Ivor, R.; Mintz Levin Cohn Ferris Glovsky and Popeo PC, One Financial Center, Boston, MA 02111 (US).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> (88) Date of publication of the international search report: 16 November 2000 (16.11.00)
(54) Title: METHODS OF ALLEVIATING CANCER SYMPTOMS (57) Abstract The invention provides methods for alleviating the symptoms of cancer by administering a morphogen. The present invention also provides compositions and methods for the inhibition or prevention of unchecked growth of cancer cells or stimulate differentiation of cancer cells.		

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece			TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	NZ	New Zealand		
CM	Cameroon			PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/26636

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K38/18 A61P35/00

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 7 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 practical, search terms used)

EPO-Internal, WPI Data, MEDLINE, BIOSIS, EMBASE, LIFESCIENCES, CANCERLIT, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 739 107 A (COHEN C.M. ET AL.) 14 April 1998 (1998-04-14) column 93 -column 94 ---	1-31
A	WO 98 50061 A (BIOGEN INC.) 12 November 1998 (1998-11-12) page 59 -page 60 --- -/--	1-31

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in 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 document 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 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

Date of the actual completion of the international search

17 July 2000

Date of mailing of the international search report

26/07/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Moreau, J

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/26636

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	ANDREWS PETER W ET AL: "Inhibition of proliferation and induction of differentiation of pluripotent human embryonal carcinoma cells by osteogenic protein-1 (or bone morphogenetic protein-7)." LABORATORY INVESTIGATION, vol. 71, no. 2, 1994, pages 243-251, XP000929102 ISSN: 0023-6837 the whole document	1-31
A	SODA HIROSHI ET AL: "Antiproliferative effects of recombinant human bone morphogenetic protein-2 on human tumor colony-forming units." ANTI-CANCER DRUGS, vol. 9, no. 4, April 1998 (1998-04), pages 327-331, XP000915431 ISSN: 0959-4973 the whole document	1-31

INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

PCT/US 99/26636

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5739107 A	14-04-1998	US 5972884 A	26-10-1999
		AU 719153 B	04-05-2000
		AU 2942397 A	16-10-1997
		AU 682154 B	25-09-1997
		AU 5290893 A	12-04-1994
		EP 0680334 A	08-11-1995
		JP 8501315 T	13-02-1996
		WO 9406420 A	31-03-1994
		US 5652337 A	29-07-1997
		US 5652118 A	29-07-1997
		US 5854071 A	29-12-1998
		US 5656593 A	12-08-1997
		US 6022853 A	08-02-2000
		US 6077823 A	20-06-2000
		US 5849686 A	15-12-1998
		US 5834179 A	10-11-1998
		US 5733878 A	31-03-1998
		US 6071708 A	06-06-2000
		AT 192931 T	15-06-2000
		AU 669127 B	30-05-1996
		AU 2564592 A	05-04-1993
		CA 2116562 A,C	18-03-1993
		DE 69231062 D	21-06-2000
		EP 0601106 A	15-06-1994
		JP 6510989 T	08-12-1994
		WO 9304692 A	18-03-1993
		AU 670558 B	25-07-1996
		AU 3176293 A	27-04-1993
		CA 2104678 A	12-09-1992
		CA 2116559 A	01-04-1993
		EP 0601135 A	15-06-1994
		JP 7502021 T	02-03-1995
		WO 9305751 A	01-04-1993
		US 5650276 A	22-07-1997
		US 5674844 A	07-10-1997
		US 5741641 A	21-04-1998
		US 5994131 A	30-11-1999
		AU 660019 B	08-06-1995
		AU 1754392 A	06-10-1992
		EP 0575555 A	29-12-1993
		JP 6506360 T	21-07-1994
		WO 9215323 A	17-09-1992
		US 5707810 A	13-01-1998
WO 9850061 A	12-11-1998	AU 7473098 A	27-11-1998