PATENT ASSIGNMENT

Electronic Version v1.1
Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Vion Pharmaceuticals, Inc.	01/24/2011

RECEIVING PARTY DATA

Name:	Nanotherapeutics, Inc.
Street Address:	13859 Progress Boulevard, Suite 300
City:	Alachua
State/Country:	FLORIDA
Postal Code:	32615

PROPERTY NUMBERS Total: 45

Property Type	Number
Application Number:	09645418
Application Number:	09679454
Application Number:	10076117
Application Number:	10790586
Application Number:	10738423
Application Number:	11627743
Application Number:	12080357
Application Number:	12254122
Patent Number:	5767134
Patent Number:	5869676
Patent Number:	6005097
Patent Number:	6458816
Patent Number:	6855695
Patent Number:	6962696
Patent Number:	7405317

OP $1800.00 09645418

Patent Number:	7452531
Patent Number:	7605137
PCT Number:	US9709486
PCT Number:	US9809750
PCT Number:	US9809803
PCT Number:	US0132085
PCT Number:	US0415547
PCT Number:	US0510152
PCT Number:	US0533641
Application Number:	60157500
Application Number:	60157581
Application Number:	60157620
Application Number:	60157637
Application Number:	60240529
Application Number:	60352259
Application Number:	60549598
Application Number:	60549950
Application Number:	60551981
Application Number:	60611623
Application Number:	60615419
Application Number:	60616500
Application Number:	60660356
Application Number:	60660357
Application Number:	60660738
Application Number:	60663454
Application Number:	60781866
Application Number:	60906896
Application Number:	60931528
Application Number:	61128975
Application Number:	10950890

CORRESPONDENCE DATA

Fax Number: (202)408-4400
Correspondence will be sent via US Mail when the fax attempt is unsuccessful.
Email: bonny.rogers@finnegan.com
Correspondent Name: Finnegan, Henderson, Farabow, Garrett

Address Line 1:	901 New York Avenue NW
Address Line 4:	Washington, DISTRICT OF COLUMBIA 20001-4413

ATTORNEY DOCKET NUMBER:	08100.0999-00000
NAME OF SUBMITTER:	Marc D. Evans

Total Attachments: 31
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ASSIGNMENT OF PATENTS AND PATENT APPLICATIONS

This Assignment of Patents and Patent Applications ("Assignment"), effective as of January 24, 2011 (the "Effective Date"), is by and between **U.S. BANK NATIONAL ASSOCIATION, in its capacity as trustee for the Vion Liquidating Trust,** (the "Liquidating Trust"), **U.S. BANK NATIONAL ASSOCIATION, as designated representative for Vion Pharmaceuticals, Inc. pursuant to Section 1123(b)(5) of the Bankruptcy Code,** (the "Vion", with the Liquidating Trust, the "Sellers" and each individually a "Seller"), and **Nanotherapeutics, Inc.**, a Delaware corporation (the "Assignee").

WHEREAS, Vion filed a petition under Title 11 of the United States Code with the United States Bankruptcy Court for the District of Delaware commencing a case under Chapter 11 of the Bankruptcy Code;

WHEREAS, pursuant to Vion's Second Amended Plan of Liquidation and the Order Confirming the Debtor's Second Amended Plan of Liquidation, certain of Vion's assets were transferred to the Liquidating Trust and, with respect to assets that remained with Vion, the Liquidating Trustee was appointed as the representative of Vion's estate, and is otherwise authorized to sell, transfer, or dispose of any of the Debtor's assets not transferred to the Liquidating Trust; and

WHEREAS, Vion is the owner of the patents and patent applications specified in Schedule 1 attached hereto (collectively, the "Patents and Patent Applications");

WHEREAS, pursuant to a separate Asset Purchase Agreement of even date herewith (the "Sale Agreement"), the Sellers have agreed to assign to the Assignee all of their respective rights in such Patents and Patent Applications and have the right to do so pursuant to the Order (i) Approving And Authorizing Sale Of Triapene And Related Assets Free And Clear Of Any And All Liens, Claims, Encumbrances, And Other Interests; (ii) Approving the Assumption and Assignment of the Pason License Agreement; And (iii) Granting Related Relief issued by the United States Bankruptcy Court for the District of Delaware on November 24, 2010, (Case No. 09-14429 (CSS));

WHEREAS, pursuant to the Sale Agreement, the Sellers have agreed to execute and deliver this Assignment;

NOW, THEREFORE, in consideration of the premises and mutual covenants and agreements set forth hereinafter and in the Sale Agreement, the sufficiency of which is acknowledged, the Assignee and the Sellers, intending to be legally bound, hereby agree as follows:

1. Assignment. Each of the Sellers hereby irrevocably grant, sell, convey, transfer, assign, deliver and relinquish exclusively to the Assignee, in perpetuity, all of its and their respective worldwide right, title, and interest in and to all of the Patents

and Patent Applications and foreign patent applications and patents that describe said inventions, and all divisions, renewals and continuations thereof, and all patents of the United States which may be granted thereon and all reissues and extensions thereof; and all applications for industrial property protection, including, without limitation, all applications for patents, utility models, and designs which may hereafter be filed for the invention in any country or countries foreign to the United States, together with (i) the right to sue for and obtain remedies against past infringement and rights of priority and protection of interest in such Patents and Patent Applications, (ii) the right to file and obtain any continuations, continuations-in-part, reissues, patent term extensions, divisionals and reexamination of the Patents and Patent Applications, as applicable, (iii) the right to apply, prosecute and obtain patent or similar protection for any invention embodied by any of the applications comprised in the Patents and Patent Applications, including the right to claim priority from such applications and (iv) all forms of industrial property protection, including, without limitation, patents, utility models, inventors' certificates and designs which may be granted for said invention in any country or countries foreign to the United States and all extensions, renewals and reissues thereof.

2. Ownership. The Sellers hereby covenant and agree to and with the Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, Vion is the sole and lawful owner of the entire right, title and interest in and to the above-mentioned inventions, and the Patents and Patent Applications in the United States of America and all foreign countries, and that the same are unencumbered and that Vion has good and full right and lawful authority to sell and convey the same in the manner herein set forth, and that the Sellers has not executed, and will not execute, any agreement in conflict herewith.

3. Recordation and registration of assignment. In order to record this Assignment with the United States Patent and Trademark Office (the "PTO") and to record or register it with all of the other registries at which the Patents and Patent Applications are or are intended to be registered (the "Patent Offices"), the parties hereto shall execute this Assignment and the Sellers shall execute the Recordation Cover Sheet required by the PTO, and any other similar or corresponding document that may be required by the Patent Offices (together the "Recordation Forms") in order to record or register the assignment effected hereby, provided however, that Assignee shall prepare such Recordation Forms other than those required by the PTO. Thereafter, the Sellers shall record the executed Recordation Form Cover Sheet with the PTO, together with any schedules and exhibits thereto including, but not limited to, this Assignment and Schedule 1 hereto. The Assignee shall record or register the executed Recordation Forms with the Patent Offices other than the PTO, together with any schedules and exhibits thereto.

4. Power of Attorney. Each of the Sellers does hereby make, constitute and appoint the Assignee (and any officer or agent of the Assignee as the Assignee may select in its exclusive discretion) as the Seller's true and lawful attorney-in-fact, with the power to endorse the Seller's name on all applications, documents, papers, deeds and instruments necessary to implement and effect fully the intentions, purposes and provisions of this Assignment, including, but not limited to, the filing of any instrument of assignment and documents related thereto to effect such assignment in the PTO; provided, that the Assignee shall only be entitled to exercise its rights under this power of attorney with respect to any of the foregoing actions to the extent that the Seller has failed to take such action at the request of the Assignee and following ten (10) days prior written notice to the Seller of the exercise of such rights. This power of attorney shall be irrevocable.

5. EXCEPT AS SET FORTH ABOVE AND IN THE SALES AGREEMENT, THE PATENTS AND PATENT APPLICATIONS ARE ASSIGNED WITHOUT ANY REPRESENTATION OR WARRANTY OR GUARANTY OF ANY KIND WHATSOEVER, INCLUDING BUT NOT LIMITED TO ANY EXPRESS OR IMPLIED REPRESENTATION OR WARRANTY CONCERNING TITLE, QUALITY, QUANTITY, DURABILITY, CONDITION, MERCHANTABILITY, FITNESS FOR ANY PURPOSE, FREEDOM TO OPERATE, DEPENDENT TECHNOLOGY, NON-INFRINGEMENT, VALIDITY OR ANY OTHER ASPECT OF THE SAME.

6. Governing Law. This Assignment shall be governed by and construed in accordance with the laws of the State of Delaware and any suit or action hereunder, except as otherwise set forth herein, shall be brought in said jurisdiction.

7. Successors and Assigns. This Assignment shall bind the Sellers and their successors and assigns and inure to the benefit of Assignee and its successors and assigns.

[Signature page to follow]

This Assignment of Patents and Patent Applications is executed and delivered effective as of the date first set forth above.

U.S. BANK NATIONAL ASSOCIATION, in its capacity as trustee for the Vion Liquidating Trust

By _____
Patricia Kapsch
Vice President

and

U.S. BANK NATIONAL ASSOCIATION, as designated representative for Vion Pharmaceuticals, Inc. pursuant to Section 1123(b)(5) of the Bankruptcy Code

By _____
Patricia Kapsch
Vice President

NANOTHERAPEUTICS, INC.

By: _____
Name: James D. Talton, Ph.D.
Title: President and CEO

COUNTY OF Ramsey :
: ss.:
STATE OF Minnesota :

BE IT REMEMBERED, that on this 24th day of January, 2011, before me, the subscriber, a notary public of the State of Minnesota, personally appeared Patricia J. Kapsch, who, I am satisfied, is the person who signed the foregoing Assignment of Patents and Patent Applications as the Vice President of U.S. Bank National Association, in its capacity as trustee for the Vion Liquidating Trust and she thereupon acknowledged that the said instrument. was signed and delivered by her as such officer.

Jennifer Widmyer Scoble
Notary Public
Minnesota
My Commission Expires January 31, 2012

Notary Public
My Commission Expires: Jan 31, 2012

COUNTY OF [Ramsey] :
: ss.:
STATE OF [Minnesota :

BE IT REMEMBERED, that on this 24th day of January, 2011, before me, the subscriber, a notary public of the State of Minnesota, personally appeared Patricia J. Kapsch, who, I am satisfied, is the person who signed the foregoing Assignment of Patents and Patent Applications as the Vice President of U.S. Bank National Association, as designated representative for Vion Pharmaceuticals, Inc. pursuant to Section 1123(b)(5) of the Bankruptcy Code and she thereupon acknowledged that the said instrument was signed, and delivered by her as such officer.

Jennifer Widmyer Scoble
Notary Public
Minnesota
My Commission Expires January 31, 2012

Notary Public
My Commission Expires: Jan 31, 2012

Schedule 1

Patents and Patent Applications

Title	Country	Application / Patent No.	Status
Modified Prodrug Forms of AP/AMP	U.S.	60/240,529	Expired
Modified Prodrug Forms of AP/AMP	U.S.	09/977,659 6,458,816	Issued
Modified Prodrug Forms of AP/AMP	PCT	PCT/US01/32085 WO 2002/030424	Completed
Modified Prodrug Forms of AP/AMP	Australia	2002211725 2002211725	Issued
Modified Prodrug Forms of AP/AMP	Brazil	PI0114598-3	Abandoned
Modified Prodrug Forms of AP/AMP	Canada	2,423,220	Pending
Modified Prodrug Forms of AP/AMP	China	01817934.7 232916	Issued
Modified Prodrug Forms of AP/AMP	Europe	01979800.8	Pending
Modified Prodrug Forms of AP/AMP	Hong Kong	04100869.4 HK1058005	Issued
Modified Prodrug Forms of AP/AMP	Japan	2002-533865 2004-510818	Issued
Modified Prodrug Forms of AP/AMP	Korea	10-2003-7005178	Abandoned
Modified Prodrug Forms of AP/AMP	Mexico	2003PA03161	Abandoned
Modified Prodrug Forms of AP/AMP	Russia	2003113538	Abandoned
Process for the Synthesis of Ribonucletide Reductase Inhibitors 3-AP and 3-AMP	U.S.	08/856,559 5,869,676	Issued

Title	Country	Application / Patent No.	Status
Process for the Synthesis of Ribonucletide Reductase Inhibitors 3-AP and 3-AMP	PCT	PCT/US98/09803 WO 1998/051670	Completed
Process for the Synthesis of Ribonucletide Reductase Inhibitors 3-AP and 3-AMP	Australia	75714/98 72816	Abandoned
Process for the Synthesis of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	Brazil	PI9808810-6	Abandoned
Process for the Synthesis of Ribonucletide Reductase Inhibitors 3-AP and 3-AMP	Canada	2,289,970	Abandoned
Process for the Synthesis of Ribonucletide Reductase Inhibitors 3-AP and 3-AMP	China	98805147.8	Issued
Process for the Synthesis of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	Europe	98923414.1	Abandoned
Process for the Synthesis of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	Hong Kong	00104763.7 HK1025567	Issued
Process for the Synthesis of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	Japan	10-549514	Abandoned
Process for the Synthesis of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	Korea	1999-7010575	Abandoned
Process for the Synthesis of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	Mexico	9910427 218878	Abandoned
Process for the Synthesis of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	Russia	99126808 2198875	Abandoned
Prodrug Forms of Ribonucleotide Reductase Inhibitos 3-AP and 3-AMP	U.S.	08/856,568 5,767,134	Issued
Prodrug Forms of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	PCT	PCT/US98/09750 WO1998/051669	Completed

Title	Country	Application / Patent No.	Status
Prodrug Forms of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	Australia	74840/98 727848	Abandoned
Prodrug Forms of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	Brazil	PI9809633-8	Abandoned
Prodrug Forms of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	Canada	2,290,617	Abandoned
Prodrug Forms of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	China	98805148.6	Withdrawn in favor of divisional
Prodrug Forms of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	China	200810095427.9	Pending
Prodrug Forms of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	Europe	98922247.6 0988285	Abandoned Lapsed: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, and SE
Prodrug Forms of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	Hong Kong	00104764.6	Pending
Prodrug Forms of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	Japan	10-549484	Abandoned
Prodrug Forms of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	Korea	1999-701565	Abandoned
Prodrug Forms of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	Mexico	9910422 218878	Abandoned
Prodrug Forms of Ribonucleotide Reductase Inhibitors 3-AP and 3-AMP	Russia	99127343 2199531	Abandoned

Title	Country	Application / Patent No.	Status
Phosphate-Bearing Prodrugs of Sulfonyl Hydrazines and Hypoxia-selective Antineoplastic Agents	U.S.	60/611,623	Expired
Phosphate-Bearing Prodrugs of Sulfonyl Hydrazines and Hypoxia-selective Antineoplastic Agents	U.S.	60/615,419	Expired
Phosphate-Bearing Prodrugs of Sulfonyl Hydrazines and Hypoxia-selective Antineoplastic Agents	U.S.	60/616,500	Expired
Phosphate-Bearing Prodrugs of Sulfonyl Hydrazines and Hypoxia-selective Antineoplastic Agents	U.S.	11/232,252 7,405,317	Issued
Phosphate-Bearing Prodrugs of Sulfonyl Hydrazines and Hypoxia-selective Antineoplastic Agents	U.S.	12/080,357	Abandoned
Phosphate-Bearing Prodrugs of Sulfonyl Hydrazines and Hypoxia-selective Antineoplastic Agents	U.S.	12/150,759	Abandoned
Phosphate-Bearing Prodrugs of Sulfonyl Hydrazines and Hypoxia-selective Antineoplastic Agents	PCT	PCT/US05/33641 WO2006/034266	Completed
Phosphate-Bearing Prodrugs of Sulfonyl Hydrazines and Hypoxia-selective Antineoplastic Agents	Australia	2005286833	Pending
Phosphate-Bearing Prodrugs of Sulfonyl Hydrazines and Hypoxia-selective Antineoplastic Agents	Canada	2,575,269	Pending
Phosphate-Bearing Prodrugs of Sulfonyl Hydrazines and Hypoxia-selective Antineoplastic Agents	China	200580031746.8 HK 07110820.8	Pending
Phosphate-Bearing Prodrugs of Sulfonyl Hydrazines and Hypoxia-selective Antineoplastic Agents	Europe	05812794.5	Pending
Phosphate-Bearing Prodrugs of Sulfonyl Hydrazines and Hypoxia-selective Antineoplastic Agents	India	770/KOLNP/2007	Pending
Phosphate-Bearing Prodrugs of Sulfonyl Hydrazines and Hypoxia-selective Antineoplastic Agents	Japan	2007-532610	Pending
Phosphate-Bearing Prodrugs of Sulfonyl Hydrazines and Hypoxia-selective Antineoplastic Agents	Singapore	200701699-1 130599	Issued

Title	Country	Application / Patent No.	Status
Novel Hydrazone and Imine Compounds as Anti-Cancer Agents	U.S.	60/549,598	Expired
Novel Hydrazone and Imine Compounds as Anti-Cancer Agents	U.S.	60/660,357	Expired
Novel Hydrazone and Imine Compounds as Anti-Cancer Agents	U.S.	60/660,356	Expired
Novel Hydrazone and Imine Compounds as Anti-Cancer Agents	U.S.	60/781,866	Expired
Novel Hydrazone and Imine Compounds as Anti-Cancer Agents	U.S.	60/906,896	Expired
Methods of Synthesizing VNP4010M	U.S.	60/931,528	Expired
Methods of Synthesizing VNP4010M	U.S.	61/128,975	Expired
Process for the Synthesis of Anti-Neophasia Agent VNP40101M	U.S.	12/454,997	Pending
Method of Treating Ischemia, Reperfusion, Myocardial Infarction and Other Cardiovascular Conditions and Disease States	U.S.	60/549,950	Expired
Method of Treating Ischemia, Reperfusion, Myocardial Infarction and Other Cardiovascular Conditions and Disease States	U.S.	60/551,981	Expired

Title	Country	Application / Patent No.	Status
Antiviral Agents and Methods of Treating Viral Infections	U.S.	60/285,559	Expired
Antiviral Agents and Methods of Treating Viral Infections	U.S.	10/126,050 6,911,460	Issued
Antiviral Agents and Methods of Treating Viral Infections	U.S.	11/093,648	Abandoned
Antiviral Agents and Methods of Treating Viral Infections	PCT	PCT/US02/12358 WO2002/085358	Completed
Antiviral Agents and Methods of Treating Viral Infections	China	02808591.4	Issued
Antiviral Agents and Methods of Treating Viral Infections	Hong Kong	HK 04105053.9	Pending
CANCER TREATMENT COMPRISING TRIAPINE	China	200410001627.5	Pending
CANCER TREATMENT COMPRISING TRIAPINE	China	2010092700087240	Pending

Country	App #.	Patent #	PCT #	Name	Filing Date	Issue Date	Status	Owner
US	60/157,620			Non-Invasive Tumor Imaging by Tumor-Targeted Bacteria	10/4/1999		converted	Vion
US	09/679,454			Non-Invasive Tumor Imaging by Tumor-Targeted Bacteria	10/4/2000		Abandoned	Vion
US PCT			US00/27397	Non-Invasive Tumor Imaging by Tumor-Targeted Bacteria	10/4/2000			Vion
Canada	2,386,806			Non-Invasive Tumor Imaging by Tumor-Targeted Bacteria	4/2/2002		Abandoned	Vion
Europe	970577.3			Non-Invasive Tumor Imaging by Tumor-Targeted Bacteria	5/4/2002		Abandoned	Vion
US	60/150,928			Compositions an Methods for Delivery of an Agent Using Attenuated Salmonella Containing Phage	8/26/1999		Converted	Vion
US	09/645,418			Compositions an Methods for Delivery of an Agent Using Attenuated Salmonella Containing Phage	8/20/2000		Abandoned	Vion
US	10/076,117			Compositions an Methods for Delivery of an Agent Using Attenuated Salmonella Containing Phage	2/13/2002		Abandoned	Vion

US	10/0790,586			Compositions an Methods for Delivery of an Agent Using Attenuated Salmonella Containing Phage	3/1/2004		Abandoned	Vion
US PCT			US00/23243	Compositions an Methods for Delivery of an Agent Using Attenuated Salmonella Containing Phage	8/24/2000			Vion
Canada	2,381,755			Compositions an Methods for Delivery of an Agent Using Attenuated Salmonella Containing Phage	2/7/2002		Abandoned	Vion
US	60/157,500			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	10/4/1999		Provisional App. Expired	Vion
US	60/157,581			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	10/4/1999		Provisional App. Epired	Vion
US	60/157,637			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	10/4/1999		Provisional App. Epired	Vion
US	09/645,415	6,962,696		Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	8/24/2000	11/8/2005	Issued	Vion
US	11/082,544	7,452,531		Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	3/17/2005	11/18/2008	Issued	Vion

US	12/254,122			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	10/20/2008		Pending	Vion
US	10/738,423			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	12/16/2003		Pending	Vion
US	11/627,743			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	1/26/2007		Abandoned	Vion
US				Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules			Never filed	Vion
US				Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules			Never filed	Vion
Australia	69334/00	783714		Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	4/9/2002	8/24/2000	Issued	Vion
Brazil	0014491-6			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	4/4/2002		Pending	Vion
Canada	2,386,465			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	4/2/2002		Pending	Vion
China	816714.1			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	8/24/2000		Abandoned	Vion

China	910128059.8			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	3/23/2009		Pending	Vion
Hong Kong	3108220.2			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	11/12/2003		On hold	Vion
Europe	957764.4			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	5/3/2002		Pending	Vion
Israel	148933			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	3/27/2002		Pending	Vion
Japan	01-528552			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	4/4/2002		Pending	Vion
Korea	02-7004371			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	4/4/2002		Abandoned	Vion
Mexico	02/003384			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	4/3/2002		Abandoned	Vion
New Zealand	518354	518354		Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	4/12/2002	6/9/2005	Issued	Vion
Singapore	0201817-4			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	4/1/2002		Abandoned	Vion

US	60/309,422			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	8/1/2001		Abandoned	Vion
US	60/417,289			Compositions and Methods for Tumor-Targeted Delivery of Effector Molecules	10/9/2002		Expired	Vion
US	60/157,621			Method for Treating Solid Tumors with Irradiation and Bacteria	10/4/1999		Converted	Vion
US	09/679,453			Method for Treating Solid Tumors with Irradiation and Bacteria	10/4/2000		Abandoned	Vion
US PCT			US00/27391	Method for Treating Solid Tumors with Irradiation and Bacteria	10/4/2000		Abandoned	Vion
US	60/352,259			Methods for Treating Cancer by Administering Tumor-Targeted Bacteria and an Immunomodulatory Agent	1/28/2002		Converted	Vion
US PCT			US03/02451	Methods for Treating Cancer by Administering Tumor-Targeted Bacteria and an Immunomodulatory Agent	2/28/2003		Abandoned	Vion
US PCT			US05/10152	Combination Therapy Comprising Cloretazine	3/25/2005		Expired	Vion
China	No # yet		US05/10152	Combination Therapy Comprising Cloretazine			Pending	Vion
Hong Kong	8101520.9		US05/10152	Combination Therapy Comprising Cloretazine	2/11/2008		Pending	Vion

Europe	5745357.3		US05/10152	Combination Therapy Comprising Cloretazine	3/25/2005		Pending	Vion
US	10/593,217	7,605,137	US05/10152	Combination Therapy Comprising Cloretazine	9/15/2006	10/20/2009	Issued	Vion

Country	App #	Patent #	Name	File Date	Issue Date	Status	Owner
US	08/663,674	6,005,097	Process for High-yield Diasterioselective Synthesis of Dideoxynucleosides	6/14/1996	12/21/1999	Issued	Vion
US	08/856,559	5,869,676	Process for Synthesis of Ribonucleotide Reductase Inhabitors 3-AP and 3-AMP	5/15/1997	2/9/1999	Issued	Vion
US	08/856,568	5,767,134	Prodrug Forms of Ribonucleotide Reductase Inhibators 3-AP and 3-AMP	5/15/1997	6/16/1998	Issued	Vion
US	PCT/US97/09486		Process for High-yield Diasterioselective Synthesis of Dideoxynucleosides	6/2/1997		Scheduled for Abandonment	Vion
US	PCT/US98/009803		Process for the Synthesis of Ribonucleotide Reductase Inhabitors 3-AP and 3-AMP	5/14/1998	11/19/1998	Entered National Phase	Vion
US	PCT/US98/09750		Prodrug Forms of Ribonucleotide Reductase Inhibators 3-AP and 3-AMP	5/14/1998	11/19/1998	Entered National Phase	Vion
US	Interference # 104,175	5,631,239	B-LFddC Nucleoside Compunds Anit-HBV			Abandoned	Yale
Australia		713,764	Process for High-yield Diasterioselective Synthesis of Dideoxynucleosides			Abandoned	Vion
Brazil	PI9709785-3		Process for High-yield Diasterioselective Synthesis of Dideoxynucleosides			Abandoned	Vion
Canada	2,258,160		Process for High-yield Diasterioselective Synthesis of Dideoxynucleosides			Abandoned	Vion

China	97195517.4		Process for High-yield Diasterioselective Synthesis of Dideoxynucleosides			Abandoned	Vion
Europe	97927916.3		Process for High-yield Diasterioselective Synthesis of Dideoxynucleosides			Abandoned	Vion
Japan	501657-1998	2000-512637	Process for High-yield Diasterioselective Synthesis of Dideoxynucleosides		9/26/2000	Abandoned	Vion
Korea	98-0710188		Process for High-yield Diasterioselective Synthesis of Dideoxynucleosides			Abandoned	Vion
Australia	75714/98	728165	Process for Synthesis of Ribonucleotide Reductase Inhabitors 3-AP and 3-AMP	5/14/1998	19-Apr	Abandoned	Vion
Australia	74840/98	727848	Prodrug Forms of Ribonucleotide Reductase Inhibators 3-AP and 3-AMP	5/14/1998	4/19/2001	Abandoned	Vion
Brazil	PI9808810-6		Process for Synthesis of Ribonucleotide Reductase Inhabitors 3-AP and 3-AMP	5/14/1998		Abandoned	Vion
Brazil	PI9809633-8		Prodrug Forms of Ribonucleotide Reductase Inhibators 3-AP and 3-AMP	5/14/1998		Abandoned	Vion
Canada	2,289,970		Process for Synthesis of Ribonucleotide Reductase Inhabitors 3-AP and 3-AMP			Abandoned	Vion
Canada	2,290,617		Prodrug Forms of Ribonucleotide Reductase Inhibators 3-AP and 3-AMP			Abandoned	Vion

China			Process for Synthesis of Ribonucleotide Reductase Inhabitors 3-AP and 3-AMP			Issued	Vion
China	104763.7	HK1025567	Process for Synthesis of Ribonucleotide Reductase Inhabitors 3-AP and 3-AMP		11/21/2003	Issued	Vion
China	98805148.6		Prodrug Forms of Ribonucleotide Reductase Inhibators 3-AP and 3-AMP			Issued	Vion
China	810095427.9		Prodrug Forms of Ribonucleotide Reductase Inhibators 3-AP and 3-AMP			Pending	Vion
Hong Kong	104764.6		Prodrug Forms of Ribonucleotide Reductase Inhibators 3-AP and 3-AMP	5/14/1998		Pending	Vion
Europe	98923414.1		Process for Synthesis of Ribonucleotide Reductase Inhabitors 3-AP and 3-AMP			Abandoned	Vion
Europe	9822247.6	988285	Prodrug Forms of Ribonucleotide Reductase Inhibators 3-AP and 3-AMP		9/11/2005	Abandoned	Vion
Japan	10-549514		Process for Synthesis of Ribonucleotide Reductase Inhabitors 3-AP and 3-AMP	5/14/1998		Abandoned	Vion
Japan	10/549484		Prodrug Forms of Ribonucleotide Reductase Inhibators 3-AP and 3-AMP			Abandoned	Vion
Korea	99-7010575		Process for Synthesis of Ribonucleotide Reductase Inhabitors 3-AP and 3-AMP	5/14/1998		Abandoned	Vion

Korea	99-7010565		Prodrug Forms of Ribonucleotide Reductase Inhibators 3-AP and 3-AMP			Abandoned	Vion
Mexico	9910427	220367	Process for Synthesis of Ribonucleotide Reductase Inhabitors 3-AP and 3-AMP			Abandoned	Vion
Mexico	9910422	218878	Prodrug Forms of Ribonucleotide Reductase Inhibators 3-AP and 3-AMP	11/12/1999		Abandoned	Vion
Russia	99126808	2198875	Process for Synthesis of Ribonucleotide Reductase Inhabitors 3-AP and 3-AMP		2/20/2003	Abandoned	Vion
Russia	99127343	2199531	Prodrug Forms of Ribonucleotide Reductase Inhibators 3-AP and 3-AMP		2/27/2003	Abandoned	Vion
US	09/977,659	6,458,816	Modified Prodrug Forms of AP/AMP	10/15/2001	10/1/2002	Issued	Vion
US	PCT/US01/32085		Modified Prodrug Forms of AP/AMP	10/15/2001	4/18/2002	No longer Pending	Vion
Australia	2211725		Modified Prodrug Forms of AP/AMP	5/13/2002		Issued	Vion
Brazil	PI0114598-3		Modified Prodrug Forms of AP/AMP			Abandoned	Vion
Canada	2,423,220		Modified Prodrug Forms of AP/AMP			Pending	Vion
China	1817934.7	232916	Modified Prodrug Forms of AP/AMP		10/26/2005	Issued	Vion
Hong Kong	4100869.4	HK1058005	Modified Prodrug Forms of AP/AMP		1/6/2006	Issued	Vion
Europe	1979800.8		Modified Prodrug Forms of AP/AMP			Pending	Vion
Japan	02-533865	04-510818	Modified Prodrug Forms of AP/AMP		4/8/2004	Granted	Vion
Korea	10-03-7005178		Modified Prodrug Forms of AP/AMP			Abandoned	Vion
Mexico			Modified Prodrug Forms of AP/AMP			Abandoned	Vion
Russia	2003113538		Modified Prodrug Forms of AP/AMP			Abandoned	Vion

US	10/461,282	6,855,695	Water-Soluble SHP's as Novel Alkylating Agents	6/13/2003	2/15/2005	Issued	Vion
US	10/950,890		Water-Soluble SHP's as Novel Alkylating Agents	9/27/2004		Abandoned	Vion
US	PCT/US04/15547		Water-Soluble SHP's as Novel Alkylating Agents	5/18/2004			Vion
Canada	2,525,091		Water-Soluble SHP's as Novel Alkylating Agents	5/18/2004		Pending	Vion
China	480016470.1		Water-Soluble SHP's as Novel Alkylating Agents	5/18/2004		Granted	Vion
Hong Kong	6109806.9	1089368	Water-Soluble SHP's as Novel Alkylating Agents	9/4/2006	10/22/2008	Granted	Vion
Europe	4776031.9		Water-Soluble SHP's as Novel Alkylating Agents	5/18/2004		Pending	Vion
Japan	06-533183		Water-Soluble SHP's as Novel Alkylating Agents	12/12/2005		Pending	Vion
US	60/611,623		Phosphate-bearing Prodrugs of Sulfonyl Hydrazines as Hypoxia-Selective Antineoplastic Agents	9/21/2004		Became priority for PCT US	Vion
US	60/615,419		Phosphate-bearing Prodrugs of Sulfonyl Hydrazines as Hypoxia-Selective Antineoplastic Agents	10/1/2004		Became priority for PCT US	Vion
US	60/615,500		Phosphate-bearing Prodrugs of Sulfonyl Hydrazines as Hypoxia-Selective Antineoplastic Agents	10/6/2004		Became priority for PCT US	Vion
US	PCT/US05/33641		Phosphate-bearing Prodrugs of Sulfonyl Hydrazines as Hypoxia-Selective Antineoplastic Agents	9/21/2005		Matured into National Stage	Vion
US	11/232,252	7,405,317	Phosphate-bearing Prodrugs of Sulfonyl Hydrazines as Hypoxia-Selective Antineoplastic Agents	9/21/2005	7/29/2008	Issued	Vion

US	12/080,357	09-0075945	Phosphate-bearing Prodrugs of Sulfonyl Hydrazines as Hypoxia-Selective Antineoplastic Agents	4/2/2008	3/19/2009	Pending	Vion
Australia	5286833		Phosphate-bearing Prodrugs of Sulfonyl Hydrazines as Hypoxia-Selective Antineoplastic Agents	9/21/2005		Pending	Vion
Canada	2,575,269		Phosphate-bearing Prodrugs of Sulfonyl Hydrazines as Hypoxia-Selective Antineoplastic Agents	9/20/2005		Pending	Vion
China	580031746.8	7110820.8	Phosphate-bearing Prodrugs of Sulfonyl Hydrazines as Hypoxia-Selective Antineoplastic Agents	9/21/2005	10/5/2007	Pending	Vion
Europe	5812794.5		Phosphate-bearing Prodrugs of Sulfonyl Hydrazines as Hypoxia-Selective Antineoplastic Agents	9/21/2005		Pending	Vion
India	770/KOLNP/07		Phosphate-bearing Prodrugs of Sulfonyl Hydrazines as Hypoxia-Selective Antineoplastic Agents	3/2/2007		Pending	Vion
Japan	07-532610		Phosphate-bearing Prodrugs of Sulfonyl Hydrazines as Hypoxia-Selective Antineoplastic Agents	9/4/2007		Pending	Vion
Singapore	0701699-1	130599	Phosphate-bearing Prodrugs of Sulfonyl Hydrazines as Hypoxia-Selective Antineoplastic Agents	9/21/2005	5/30/2008	Granted	Vion
US	61/128,975		Methods of Synthesizing VNP4010M	5/27/2008		Pending	Vion
US	12/454,997		Process for the Synthesis of Anti-Neoplasia Agents VNP40101M	5/27/2009		Pending	Vion

Country	App#	Patent #	Name	File Date	Issue Date	Status	Owner
US PCT	PCT/US05/10152		Combination Therapy Comprising Cloretazine	3/25/2005		Expired	Vion
China	580009262.3		Comination Therapy Comprising Cloretazine	9/22/2006			Vion
Hong Kong	8101520.9		Combination Therapy Comprising Cloretazine	2/11/2008			Vion
Europe	5745357.3		Combination Therapy Comprising Cloretazine	To be filed			Vion
US	10/593,217	7,605,137	Combination Therapy Comprising Cloretazine	9/15/2006	10/20/2009	Issued	Vion
US	60/660,738		Alkylguanyltransferase Assays	3/11/2005		Expired	Vion
US	60/663,454		Alkylguanyltransferase Assays	3/18/2005		Expired	Vion
US	Not yet known		Alkylguanyltransferase Assays	3/9/2006		Issued	Vion
US	11/856,909		Alkylguanyltransferase Assays	9/18/2007		Abandoned	Vion

Country	App #	Patent #	Name	File Date	Issue date	Status	Owner
AT	98953830.1		N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998		Abandoned	Yale
AU	11103/99	735349	N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998	10/18/2001	Issued	Yale
BE	98953830.1		N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998		Abandoned	Yale
BR	PI9813923-1		N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998		Pending	Yale
CA	2308315		N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998		Pending	Yale
CH	98953830.1		N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998		Abandoned	Yale
CN	98810755.4	98810755.4	N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998	10/22/2003	Issued	Yale
DE	98953830.1	1028721	N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998	6/4/2003	Issued	Yale
DK	98953830.1		N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998		Abandoned	Yale
EP	98953830.1	1028721	N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998	6/4/2003	Closed	Yale
ES	98953830.1	1028721	N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998	6/4/2003	Issued	Yale
FI	98953830.1		N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998		Abandoned	Yale
FR	98953830.1	1028721	N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998	6/4/2003	Issued	Yale

GB	98953830.1	1028721	N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998	6/4/2003	Issued	Yale
GR	98953830.1		N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998		Abandoned	Yale
HK	1103633.6	1032916	N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998	6/4/2003	Issued	Yale
IE	98953830.1		N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998		Abandoned	Yale
IT	98953830.1	1028721	N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998	6/4/2003	Issued	Yale
JP	2000-518660		N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998		Published	Yale
KR	00-7004771	566688	N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998	3/27/2006	Issued	Yale
LI	98953830.1		N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998		Abandoned	Yale
LU	98953830.1		N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998		Abandoned	Yale
MX	4252	219542	N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998	3/24/2004	Issued	Yale
NL	98953830.1		N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998		Abandoned	Yale
PT	98953830.1		N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998		Abandoned	Yale
SE	98953830.1		N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998		Abandoned	Yale
US	08/963182	6040338	N,N-Bis(Sulfonyl) Hydrazines Useful as Antineoplastic Agents	10/21/1998	3/21/2000	Issued	Yale

Country	App #.	Patent #	PCT #	Name	Filing Date	Issue Date	Status	Owner
China			US2002012358	ANTIVIRAL AGENTS AND METHODS OF TREATING VIRAL INFECTIONS	4/18/2002		Abandoned	Vion/Yale
US	08/926,636	6,080,849	US98/18701	Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	9/10/1997	9/27/2000	Issued	Vion/Yale
US PCT			US98/18701	Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	9/9/1998	9/10/2002	Issued	Vion/Yale
Mexico	2008/001378			Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	1/29/2008		Pending	Vion/Yale
Australia	93807/98	749695		Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	3/8/2000	10/17/2002	Issued	Vion/Yale
Brazil	9812079-4			Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	3/10/2000		Pending	Vion/Yale
Canada	2,302,866			Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	3/3/2000		Pending	Vion/Yale

China	98811030.x	98811030.X		Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	9/9/1998	12/23/2005	Issued	Vion/Yale
Hong Kong	1104342.6	1033956		Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	6/21/2001	11/17/2006	Issued	Vion/Yale
Europe	98946891.3			Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	9/9/1998		Pending	Vion/Yale
Japan	2000-510842			Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	3/10/2000		Pending, Under Appeal	Vion/Yale
Korea	7002535/2000			Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	3/10/2000		Abandoned	Vion/Yale
Israel	134936			Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	6/3/2000		Pending	Vion/Yale
Mexico	2000002355	256274		Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	3/8/2000	4/18/2008	Issued	Vion/Yale
New Zealand	503376	503376		Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	3/14/2000	2/3/2003	Issued	Vion/Yale

Singapore	200001198-1	71486		Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	3/7/2000	4/30/2004	Issued	Vion/Yale
South Africa	98/8289	98/9289		Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	9/10/1998	5/26/1999	Issued	Vion/Yale
US	09/337,689	6,475,482		Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	6/22/1999	11/5/2002	Expired	Vion/Yale
US	10/125,328	6,923,972		Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	8/18/2002	8/2/2005	Issued	Vion/Yale
US	11/117,085	7,541,089		Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	4/28/2005	4/7/2009	Issued	Vion/Yale
US	09/149,832	6,447,784		Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	9/8/1998	9/10/2002	Issued	Vion/Yale
US	09/724,390			Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	11/28/2000		Abandoned	Vion/Yale

US	10/187,278	6,863,894		Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	6/27/2002	3/8/2005	Issued	Vion/Yale
US	11/064,533	7,354,592		Genetically Modified Tumor-Targeted Bacteria With Reduced Virulence	2/23/2005	4/8/2008	Issued	Vion/Yale

Country	App #	Patent #	Name	File Date	Issue Date	Status	Owner
US	PCT/US97/18860		Monophosphate Prodrug of Beta-L-FD4C and Beta-L-FddC as Potent Antiviral Agents	10/23/1997	4/30/1998	Abandoned	Vion/Yale
US	10/126,050	6,911,460	Antiviral Agents and Methods of Treating Viral Infections	4/18/2002	6/28/2005	Issued	Vion/Yale
US	11/093,648		Antiviral Agents and Methods of Treating Viral Infections	3/30/2005		Abandoned	Vion/Yale
US	PCT/US02/12358		Antiviral Agents and Methods of Treating Viral Infections	4/18/2002			Vion/Yale
China	2818591.4		Antiviral Agents and Methods of Treating Viral Infections			Issued	Vion/Yale
Hong Kong	4105053.9		Antiviral Agents and Methods of Treating Viral Infections	7/12/2004		Pending	Vion/Yale