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25th Anniversary



2016 Annual Report


1978 1979 1980 1981 1982 1983 1984 1985 1986 1987

25TH ANNIVERSARY
UNEMED
technology transfer for UNMC since 1991


UNeMed improves healthcare by fostering innovation, advancing biomedical research and engaging entrepreneurs and industry to commercialize novel technologies.

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1988 1989 1990 1991 1992 1993 1994 1995 1996 1997

UNeMed: 25 years of tech transfer



Michael Dixon

Michael Dixon, Ph.D.
President and CEO

May 1, 2009

New President



Michael Dixon, former Director of UNMC's Intellectual Property Office, becomes the fifth President of UNeMed. The previous President, Jim Linder, remains on staff as CEO.

This year marks the 25th anniversary of UNeMed as the University of Nebraska Medical Center's tech transfer office. We are by no means the oldest, but our longevity does afford us some advantages in wisdom and a little foresight.

When you add it all up, we have 90 years of collective experience within our walls. That's 90 years of valuable successes, and if I'm honest, some instructional failures too. We are among the few who have seen first-hand how long the road to commercial success can be for biomedical innovation.

Bringing biomedical innovation to those who need it most requires heaping portions of the most precious of nonrenewable resources: time. No amount of money can change that basic reality.

But from our point of view, those decades are well spent. I couldn't agree more with Chancellor Jeffrey Gold when he says research is "not complete until it improves a human life." That noble goal should be etched in marble somewhere at every biomedical research facility in the world. It's at the very core of our existence, and has been since the beginning.

With this annual report, we can look back at how far UNMC research has come. We will see how some of today's most promising technologies—innovations on the verge of entering clinical spaces—began more than 10 years ago. Technologies first discovered or invented in the 1990s are just now showing their true mettle.

The wider lens of time also shows us the importance of dedicating resources to the important work of our talented researchers. For example, when you look at our 25 years with the university, 2012 stands out as the most inventive at UNMC. That year, researchers disclosed a record 106 new inventions.

What made 2012 so special?

It's no coincidence that UNMC landed record levels of federal research funding in 2009 and 2010. The increased financial support was part of the American Recovery and Reinvestment Act of 2009. The federal stimulus package poured \$15 billion into facilities, instrumentation and scientific research efforts nationwide. In 2009, UNMC secured \$100.9 million in federal research awards. The next year, that ballooned to \$115.02 million. But once the stimulus spending was over, federal awards to UNMC plummeted back down to \$79.7 million in 2011.

There is a direct correlation from those financial numbers to the number of inventions. In 2010, we counted 56 new inventions, which amounted to an average year. But the following year inventions went through the roof to levels we had never seen then or since. There were 98 new inventions in 2011, and another 106 in 2012.

As the funding trickled back down, so too did the number of inventions. By 2013 there were 66 new UNMC inventions.

This is not just an interesting data point from our history. It illustrates what we think lies in wait for us. UNMC broke another record this last year, securing more than \$115.1 million in federal research awards. Last year we received 87 new inventions, which only trails those record breaking years in 2011 and 2012.

It's clear the research apparatus at UNMC is gaining speed. Facilities are world class, and will only get better when the Fred and Pamela Buffett Cancer Center comes online.

What that will mean for us, for our fellow Nebraskans and citizens of the world is anyone's guess.

But history tells me we're in for more great things. Great things that 10 or 15 years from now will change how we diagnose, treat and maybe even cure some of the biggest medical challenges we face today.

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1978 1979 1980 1981 1982 1983 1984 1985 1986 1987

December 12, 1980

Bayh-Dole Act becomes law

New President

Tom McDonald becomes the third UNeMed President.



1998

IPO Created



The Intellectual Property Office is created with Richard Huston named as the first Director. The IPO specializes in protecting the inventions and discoveries made by UNMC faculty, students and staff. UNeMed remains tasked with commercializing those innovations, largely through building relationships with industrial partners.

May 8, 2000

Third Inventor Awards

The awards program enters its third year with a slight name and program change to the "Inventor Recognition Reception," which also presented "small business achievement" awards, in addition to new UNMC patent-holders. The event will go on hiatus the following year, returning in 2002.

March, 1998

First Inventor Awards

The Intellectual Property Office and UNeMed host the first event honoring UNMC innovation—the Inventor's Recognition Reception, where all UNMC personnel awarded U.S. patents in the previous year were honored with commemorative plaques. The annual Inventor's Recognition Reception is the forerunner to today's popular Innovation Week events.

March 23, 1999

Second Inventor's Recognition Reception

June 30, 2000

UNMC Lexicon

UNeMed signs an agreement with IDX Information Systems Corporation of Vermont to license a proprietary biomedical informatics system developed by Jim Campbell, M.D. and his team. Called UNMC Lexicon, Dr. Campbell's advanced nomenclature of medical terms is incorporated into IDX's systems, which track patient records and billing. On Sept. 29, 2005, GE Healthcare acquires IDX and the UNMC Lexicon.



Malaria treatment for all

UNeMed announces a new breakthrough malarial treatment will be gifted to the Medicines for Malaria Ventures, which is heavily backed by the Bill and Melinda Gates Foundation. Early work from UNMC's Jonathan Vennerstrom, Ph.D., led to a three-day treatment course for malaria sufferers.

Dr. Vennerstrom continues working on the project, and by 2015 is ready to begin testing a single-dose version.

June 14, 2000



UNeMed Reorganizes



Under the leadership of President and CEO Jim Linder, M.D., UNeMed and the Intellectual Property Office are re-organized. All marketing, commercialization, technology transfer, and intellectual property matters now fall under one banner: UNeMed Corporation.

2007

New President

Jim Linder becomes UNeMed's fourth President, overseeing a restructuring process that creates UNeMed as we know it today.



2006

New IPO Director



Michael Dixon, Ph.D., is named the third and final Director of the Intellectual Property Office. A year later the IPO and UNeMed will be restructured so that all activities fall under the UNeMed banner. Dixon continues work at UNeMed, eventually becoming its fifth President.

May 23, 2002

Fourth Inventor Awards

After a one-year hiatus, the fourth Inventor Recognition Reception returns.

June 10, 2003

Fifth Inventor Awards

2003

New IPO Director

Leonard Agneta steps in as the new Director for the Intellectual Property Office.



2004

Inventor Awards

Although there is no ceremony this year, or in 2005, the Intellectual Property Office and UNeMed continue recognizing UNMC inventors with commemorative plaques that highlight the inventors' U.S. patents.

August 24, 2006

Sixth Inventor Awards

The sixth Inventor Recognition Reception is held.

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007

September 11, 1991

UNeMed Corporation is born



UNeMed files articles of incorporation with the Office of the Secretary of State of the State of Nebraska and officially opens for business. John P. Floyd is Chair of the board, Gary D. Meyer is the first president.

1996

Carl D. Butler becomes the second UNeMed President.

October 20, 1995



LeVein Electrode Needle

UNeMed president Gary Meyer signs an exclusive licensing deal with a California company, RadioTherapeutics, to further develop a new tumor ablation tool invented by a team led by UNMC's Robert LeVein, M.D. Called the LeVein Needle Electrode, the umbrella-shaped tool uses radio frequencies to destroy tumors with greater precision. LeVein's invention will eventually become the most widely used tumor ablation tool in the United States.

August 23, 2007

Innovation Awards



The Inventor Recognition Reception undergoes a makeover following the UNeMed/Intellectual Property Office merger. UNeMed restructures the reception into the Research Innovation Awards, "Honoring individuals for new inventions, patents, and licensed technologies."

UNeMed also presents Robert F. LeVein, M.D., with UNeMed's first-ever "Lifetime Achievement Award" for his work on the "LeVein Needle Electrode." Arguably UNMC's most successful innovation, Dr. LeVein's tumor ablation tool was brought to market by Boston Scientific, and was among the leading tools used to treat solid tumors in the United States.

Sept. 5, 2007

Creatine technology



Licensing deal signed with Tennessee-based Vireo Systems for several creatine inventions developed in the early 2000s by a team led by Jonathan Vennerstrom, Ph.D. The compounds are primarily used as a dietary supplement, and sold in nutrition outlets such as GNC. Vireo eventually builds a manufacturing facility in nearby Plattsmouth, Neb.

March 7, 2008

Virtual Incision founded



Startup Virtual Incision is formed, based on the collaborative work of UNMC surgeon Dmitry Oleynikov, M.D., and University of Nebraska-Lincoln robotics engineer Shane Farritor, Ph.D. Together, they develop surgical robotics that have the potential to transform highly-invasive procedures, such as a colon resection, into minimally invasive procedures.

In 2015 alone, Virtual Incision racked up more than \$12 million in early financing. A year later it performed its first in-human tests.

October 29, 2014

UNeMed opens China office



UNeMed Health Consulting Shanghai, doing business as UNMC-China, officially opens for business with a ribbon cutting ceremony on this day.

UNMC-China will focus on three core areas: Improve international collaborations, share knowledge, and commercialize UNMC innovations in a vast Chinese marketplace that lives in the world's second largest economy.

October 23, 2008

Innovation Awards

At the second annual Innovation Research Awards, Dong Wang, Ph.D., receives the first-ever "Emerging Inventor Award" for his work developing drug delivery systems.



Also for the first time, UNeMed presents the "Most Promising New Invention" award. Two researchers receive that honor: Guangshun (Gus) Wang, Ph.D., for his team's anti-HIV peptides; and Janina Baranowska-Kortylewicz, Ph.D., for her team's approach to a targeted cancer therapy.

October 13, 2011

Innovation Awards



Jonathan Vennerstrom, Ph.D., receives the Lifetime Achievement Award for his work in antimalarial drug discovery, which led to a single-dose malaria treatment that, as of Oct. 2016, was entering Phase III clinical trials. Dr. Vennerstrom also helped develop creatine ethyl ester, a nutritional supplement sold world-wide.

Babu Padanilam, Ph.D., receives the Most Promising New Invention for his team's novel target in the treatment of renal fibrosis.

1978 1979 1980 1981 1982 1983 1984 1985 1986 1987

Featured current technologies

REBOA: AUTOMATED HEMORRHAGE CONTROL SYSTEM

New device to save patients from catastrophic bleeding

A new automated bleeding-control system that can reduce deaths related to catastrophic internal bleeding has been developed at the University of Nebraska Medical Center.

Internal bleeding is a common result of injuries from car crashes, falls, and gunshot wounds, accounting for more than half of all American deaths between 1- and 44-years-old. Depending on the severity of the injury, the risk of death increases if the internal bleeding is not controlled in the first hour after the incident.

In the hospital, surgeons can stop severe bleeding by inserting a small balloon into a blood vessel near the injury site. The balloon—called a REBOA or Resuscitative Endovascular Balloon Occlusion of the Aorta—is then inflated, blocking flow and preventing further blood loss.

The problem with this approach is that traditional REBOA devices block all blood flow, which can lead to permanent damage if organs and tissue downstream of the device are starved from their blood supply for too long. UNMC's novel device does more than just block flow: The innovative design has the ability to bypass the damaged area and maintain blood supply to vital organs and tissues downstream of the injury.

The automated REBOA device precisely controls inflation and regulates the amount of blood flow to downstream tissue. The device is fully automated to decrease user error. It can be easily deployed within the injured vessel to prevent blood loss at the site of the injury while preserving blood flow to downstream organs and tissue.

INVENTORS

- Jason MacTaggart, M.D.
- Alexey Kamenskiy, Ph.D.

THE RUNDOWN

- Rapid occlusion and cessation of hemorrhaging vessels
- Shunts blood flow to downstream organs and tissue
- Reduced mortality from traumatic bleeding injuries
- Easy retrieval of a temporary endovascular medical device
- Better and safer alternative for REBOA
- Automated system for reduced operator error

October 1, 2009

Innovation Awards



Rodney Markin, M.D., Ph.D., takes home the Lifetime Achievement Award for his solid track record of innovative work at UNMC. At the time he received honor, he held 16 patents, several of which were licensed to major corporations, including Abbott Laboratories. His innovations formed the basis of early modern clinical laboratory automation.

Paul Dunman, Ph.D., received the Most Promising New Invention Award for his antibiotic compounds.

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An early prototype of a wound irrigation device invented at UNMC.

EFFICIENT IRRIGATION

Faster, easier wound-cleaning with continuous control

Inspired by their frustrations of repeatedly plunging a syringe into a sterile solution to spray a wound, emergency room personnel at UNMC found a way to save time and energy with a new irrigation system called “Wadwand.”

Wound cleaning is an art where the doctor or nurse must pour the sterile saline solution into a basin, load the solution into a syringe, and spray the liquid from the syringe with the same force and consistency each time.

This method produces inconsistent amounts of pressure, particularly for deep wounds, which require much greater amounts of saline pressure.

The Wadwand uses a standard sterile solution bottle fitted with a specialized cap that hooks up to a uniquely designed irrigation wand. Providers are then able to initiate the flow of the saline solution and adjust the fluid pressure with the press of a finger.

The inventors have also developed a portable version that allows the user to clean wounds outside a healthcare facility.

INVENTORS

- Thang Nguyen, A.P.R.N., M.S.N.
- Michael Wadman, M.D.
- Vincent Morris, A.P.R.N.
- Richard Morris

THE RUNDOWN

- Fitted to a sterile solution
- Ergonomic design
- Cost-efficient
- Adjustable fluid pressure
- Continuous wound irrigation
- Improve wound cleansing
- Faster irrigation process

Improve odds with hands-free airway management

An open and clear airway doesn't always guarantee survival, but it does increase the odds. A compromised airway is always a priority for first-responders, but other injuries can go unnoticed when fighting to keep the airway

open and clear.

An innovative emergency medicine team at the University of Nebraska Medical Center developed a hands-free solution that requires minimal training. The device keeps the airway open and clear of obstructions while freeing first-responders to focus on other critical actions.

During primary triage, a compromised airway can be kept open using the head-tilt, chin-lift technique or the jaw-thrust maneuver. Both of which must be performed continuously, require both hands, and risk a spinal injury if not done correctly.

An excellent alternative is to establish a quick advanced airway by inserting an artificial airway in the patient's mouth. However, this isn't always an option as primary responders don't often have the

tools necessary to establish an advanced airway.

UNMC's hands-free airway management and stabilization device, or HAMS, is designed to help rescuers perform the jaw-thrust maneuver with the flick of a wrist while minimizing the need to manipulate the patient's neck. The innovative oral airway device also includes a device retention slot for hands-free suction or oxygen administration.

In a mass casualty scenario, this portable device will allow primary responders to improve and double their efforts by managing the airways of multiple patients at the same time.

UNeMed is seeking a partner to complete preclinical testing and help place hands-free airway management devices with first-responders across the nation.

INVENTORS

- Michael Wadman, M.D.
- Thang Nguyen, A.P.R.N., M.S.N.
- Vincent Morris, A.P.R.N.
- Richard Morris

THE RUNDOWN

- Maintain patent airway
- Enables quick & correct jaw-thrust
- Retention sleeve for catheter
- Allows management of multiple patients during mass casualty

October 22, 2015

Innovation Awards



Tammy Kielian, Ph.D., receives the Innovator of the Year Award, and becomes the first UNMC researcher to win two major awards from UNeMed. Dr. Kielian—who also won the Emerging Inventor Award in 2012—developed with her team two treatment strategies for Juvenile Batten Disease, and continued promising work on *S. aureus* biofilm infections.

Michael Wadman, M.D., and Thang Nguyen, M.S.N., A.P.R.N., receive the Most Promising New Invention Award for a portfolio of disclosures inspired by their work in the emergency room. Their team produced several inventions that could help clinicians with wound management and oral airway stabilization.

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Effectively reduce diabetic brain complications



■ 2013 Most Promising New Invention

An exciting new development at the University of Nebraska Medical Center helps mitigate the disastrous effects of diabetes—particularly degenerative and destructive brain complications more often seen in the elderly.

Research on diabetic animals show that an enzyme, Glyoxalase-1, could be used to treat common diabetes complications such as blindness, heart disease, kidney failure, and erectile dysfunction.

Even more promising, the therapy also helps improve brain function and minimizes the amount of brain tissue affected by a stroke, all while significantly helping reduce blood sugar levels.

Glyoxalase-1 targets and degrades the suspected cause of these complications—a naturally occurring chemical, methylglyoxal, which is created by damaged cells when blood sugar levels are high.

Currently there are no FDA-approved treatments that target brain complications in diabetes and also help manage blood sugar levels. But with a committed partnership, Glyoxalase-1 could be the first.

INVENTOR

- Keshore Bidasee, Ph.D.

THE RUNDOWN

- Prevent cognitive dysfunction
- Reduce cerebrovascular complications
- Minimize affected brain tissue following stroke
- Treats other diabetic complications
- Reduce brain complications
- Manage blood sugar
- Targets damaged cells

Use the immune system to infiltrate and destroy tumors

University of Nebraska Medical Center researchers have found a way to harness the power of the immune system to recruit immune cells to help treat cancer.

Tatiana Bronich, Ph.D., and Joyce Solheim, Ph.D., have shown that a protein messenger, or chemokine, called CCL21 can be used to treat tumors. CCL21 is capable of attracting immune cells to the area where it's administered.

However, one problem with this approach is that CCL21 doesn't last long inside the body, and therefore the effects of CCL21 are relatively short-lived.

To get over this hurdle, Drs. Bronich and Solheim created a new way to deliver CCL21 directly to the tumor site while protecting it from degradation. The nanoformulation allows for extended release of CCL21 within the tumor site, which prolongs its effect and increases the overall therapeutic impact.

The CCL21 nanoparticle formulations have been developed, and release kinetics have been optimized. Researchers have also performed small-scale animal studies using subcutaneous Panc02 tumors where the nanoformulated CCL21 showed significant inhibition of tumor growth over nine days.

In addition to use as a standalone immunotherapy, the CCL21 nanoparticles can also enhance other immunotherapies.

By enhancing immune infiltration into tumors, the CCL21 nanoparticles can greatly enhance the efficacy of tumor vaccines, cell therapies, oncolytic viruses, and antibody therapies. Future studies will look at the benefits of co-administering CCL21 nanoparticles with existing cancer immunotherapies.

INVENTORS

- Tatiana Bronich, Ph.D.
- Joyce Solheim, Ph.D.

THE RUNDOWN

- Personalized immunotherapy
- Extended release formulation
- Enhance existing immunotherapies

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PARKINSON'S DISEASE

New vaccine strategy shows promise

A novel combination developed by researchers at the University of Nebraska Medical Center may be the final solution that could deliver a knockout blow to Parkinson's disease.

UNeMed's 2013 Innovator of the Year, Howard Gendelman, M.D., and his team believe they are on the verge of producing an effective vaccine to battle the debilitating disorder that affects more than 1 million Americans. Right now, the only treatment options for Parkinson's—the world's second-leading neurodegenerative disorder behind Alzheimer's—are methods for reducing symptoms.

But if Dr. Gendelman's approach succeeds, the immune systems of vaccinated patients will be armed to fend off the disease and prevent its disastrous effects.

The vaccine turns an old foe into a potential ally.

Vaccination with a protein alone, alpha-synuclein, actually has the ability to make Parkinson's even worse. But when the protein is paired with an immune modulator, it promotes an immune response that protects brain cells from further damage.

Preclinical studies show a remarkable 91 percent survival rate of neurons in treated laboratory mice. In 2014, early stage clinical trial testing began on one of the vaccine's critical components. The early test will help determine if the immune system of a Parkinson's patient can be successfully modulated.



INVENTORS

- Howard Gendelman, M.D.
- R. Lee Mosley, Ph.D.
- Ashley Reynolds, M.D., Ph.D.

THE RUNDOWN

- Novel therapeutic combination
- Treats underlying factors, not just symptoms
- Treats existing disease
- Prevents future disease
- Potentially useful for other neurodegenerative disorders

October 7, 2010

Innovation Awards



Amar Natarajan, Ph.D., receives the Emerging Inventor Award for his work on developing novel compounds that modulate protein signaling pathways for the treatment of cancer.

Stephen Bonasera, M.D., Ph.D., receives the Most Promising New Invention Award for a system he devised that monitors and evaluates the movements of patients.

October 10, 2013

Innovation Awards



Howard Gendelman, M.D., receives the first-ever Innovator of the Year Award for his work against neurodegenerative and neuroinfective diseases, including Parkinson's and HIV.

Keshore Bidasee, Ph.D., receives the Most Promising New Invention Award for a viral construct he developed that targets the suspected cause of many diabetic complications.

2008 2009 2010 2011 2012 2013 2014 2015 2016 2017

1978 1979 1980 1981 1982 1983 1984 1985 1986 1987

AQUABLADE

Eliminate risks associated with open-heart surgeries

AquaBlade, a new medical device invented at the University of Nebraska Medical Center and UNeMed's Most Promising New Invention of 2014, could provide a less invasive treatment for cardiovascular disease and eliminate a significant amount of the inherent risks associated with open-heart surgeries.

AquaBlade is an innovative surgical instrument that uses a catheter to deliver a specialized cutting tool through a patient's artery where it uses a high-pressure water jet to repair life-threatening tears in artery walls. The device could also be used to help remove previously deployed stents.

Arterial tears in the inner lining of an artery can lead to the formation of blood clots that obstruct blood flow and eventually lead to a heart attack or stroke. If left untreated, an arterial tear is fatal for 80 percent of patients.

Current treatments for

INVENTORS

- Jason MacTaggart, M.D.
- Nicholas Phillips
- Alexey Kamenskiy, Ph.D.
- Amy Mantz

THE RUNDOWN

- Treats aortic dissection
- Removes stents
- Less invasive
- Faster patient recovery

arterial tears often require open-heart surgery, which carries a 25 percent risk of death and an extended recovery period.

AquaBlade eliminates most of those risks while also minimizing the time of recovery. It is currently at the conceptual stage, preparing a functional prototype for preclinical testing.



Perform affordable laparoscopic surgery for all

One of the greatest advances in surgery is the advent of laparoscopic surgery, now a standard of care in most countries.

Looking to extend the use of laparoscopic surgery into developing economies, Chandrakanth Are, M.D., a surgical oncologist at the University of Nebraska Medical Center invented a portable system that takes laparoscopic surgery beyond the dedicated operating room and into the hands of surgeons in a non-traditional environment with minimal support.

Laparoscopic surgery owes its success to the minimally invasive strategy. Laparoscopic surgery occurs with no open incisions as the surgeon makes

small holes to insert cameras and other surgical tools. As a result, laparoscopy is a dedicated specialty that involves expensive laparoscopic suites, with state-of-the-art equipment. It's a kind of surgery performed in one kind of place.

Dr. Are's portable laparoscope technology allows emerging economies to keep up with the standard of care and practice laparoscopic surgery. This groundbreaking system takes the function of a laparoscopic suite and reproduces it in a portable system enabling laparoscopic investigation outside of the minimally invasive suite.

INVENTORS

- Chandrakanth Are, M.D.
- Madhuri Are, M.D.
- Dennis Alexander, Ph.D.

THE RUNDOWN

- Inexpensive to manufacture and employ
- Requires only minimal clinical support
- Improves access to laparoscopy in emerging economies
- Expands the clinical usefulness of the laparoscope beyond the operating room

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007

1988 1989 1990 1991 1992 1993 1994 1995 1996 1997

SURE SNARE

Remove obstructions from within blood vessels swiftly, safely

Sure Snare, a new endovascular medical device created at the University of Nebraska Medical Center could efficiently remove obstructions within blood vessels and result in less time in the operating room.

Existing snares are often difficult to navigate, manipulate or retrieve objects in a timely manner. They must also be

deployed under X-ray guidance, which increases the radiation exposure of both the patient and physician.

Sure Snare is an innovative grappling tool with multiple snaring loops that capture objects within blood vessels or ducts of a patient. Once captured, the tangled object is encapsulated by a membrane cap

to prevent damaging the vessel walls as the object is removed. A catheter-based system allows for easy manipulation of the device. Together, these novel features will significantly reduce the time spent under X-ray guidance.

The Sure Snare is early-stage with a working prototype in development.

INVENTORS

- Jason MacTaggart, M.D.
- Alexey Kamenskiy, Ph.D.

THE RUNDOWN

- Novel vascular medical device
- Removes objects from blood vessels
- Safer and better capture of objects
- Reduced risk of injury to patient

October 23, 2014

Innovation Awards



Marius Florescu, M.D., receives the Emerging Inventor Award for his efforts to improve kidney dialysis with better AV fistula formation and an improved catheter.

Jason MacTaggart, M.D., receives the Most Promising New Invention Award for the "Aquablade," a system that uses a high-pressure water jet to safely cut tissue amid flowing blood within the vasculature.

October 18, 2012

Innovation Awards



Tammy Kielian, Ph.D., receives the Emerging Inventor Award for her work on *Staphylococcus aureus* biofilm infections and Juvenile Batten Disease.

Gregory Oakley, Ph.D., receives the Most Promising New Invention Award for three compounds he developed that inhibit the interaction of proteins that affect the DNA damage response in cells.

■ Rapid Pathogen Detection

Identify pathogens in minutes

Researchers at the University of Nebraska Medical Center developed a new system that quickly and accurately identifies pathogens in patient and environmental samples.

Current detection procedures are time-consuming chores that require experienced personnel performing multi-step processes with expensive instruments.

That process is streamlined with UNMC's new system, which links a pathogen-binding molecule to a transparent nanogel.

When the pathogen binds to the nanogel, it loses its transparency. This change in the nanogel's transparency can be detected and quantified with a commonly available light-scattering detector.

With this system, pathogens can be identified within five minutes, saving an enormous amount of time and allowing for rapid and effective clinical responses.

Nanogel systems at UNMC have already been developed and tested for the detection of botulinum toxin, influenza A and influenza B. This system is easily adaptable, and additional pathogen-specific nanogels can be developed with minimal effort.

INVENTOR

- Serguei Vinogradov, Ph.D.

THE RUNDOWN

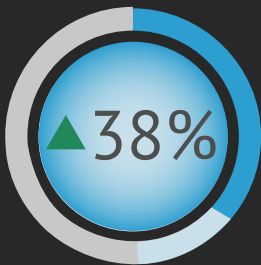
- High specificity and activity
- Rapid detection of pathogens
- Adaptable for the detection of a variety of pathogens

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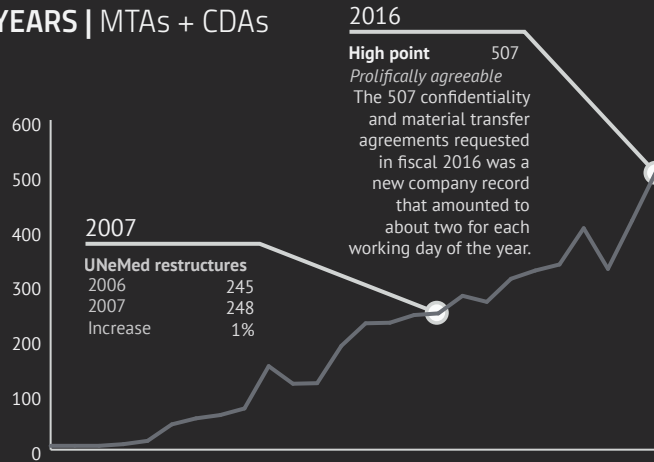
25 years of technology commercialization at UNMC

Inventions **2016**

UNeMed secured 87 new inventions in the fiscal year 2016, the highest total since a record-breaking 106 in 2012. The 87 inventions represent the third-highest total in the 25-year history of UNeMed, and a 38 percent improvement over the previous year.

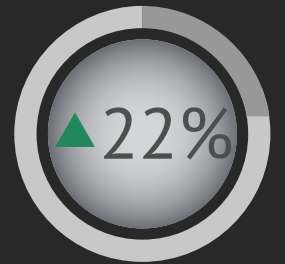


25 YEARS | MTAs + CDAs

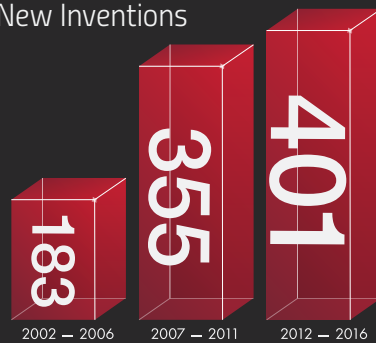


MTAs+CDAs **2016**

In the fiscal year 2016, UNeMed worked on a record 507 agreements. That breaks down into 367 material transfers and 140 confidentiality agreements, which were also new company records. That production marked a 22 percent increase over the 417 agreements from the previous year.



New Inventions



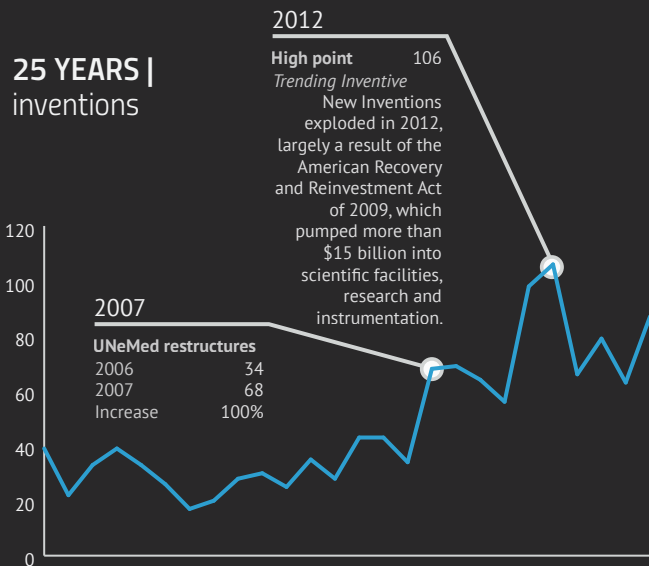
Core Metrics **2016**

New inventions	87
Unique inventors	108
New inventors	63

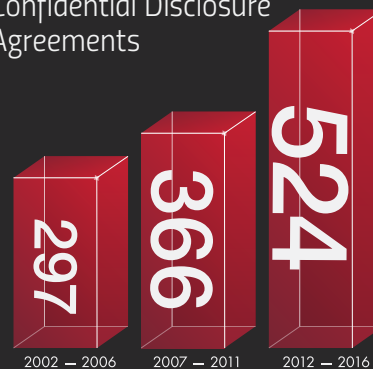
Material Transfer Agreements



25 YEARS | inventions

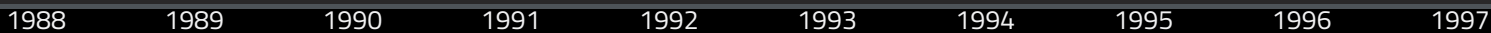


Confidential Disclosure Agreements

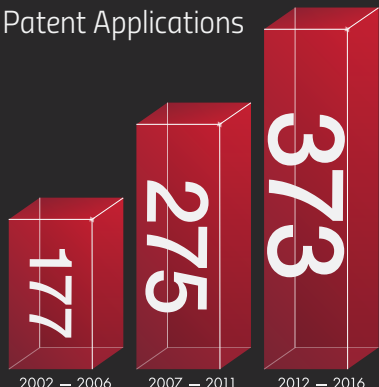


Core Metrics

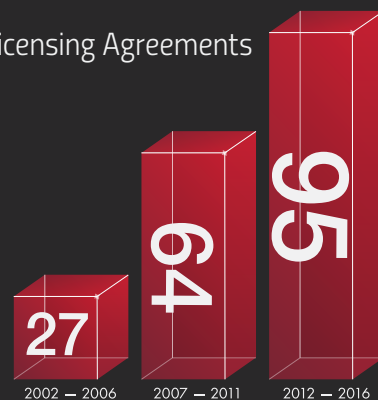
MTAs
CDAs
Patent appls
Patents issued



Patent Applications



Licensing Agreements



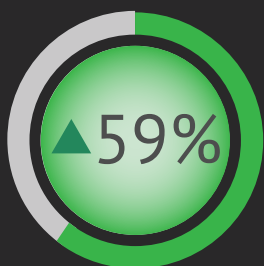
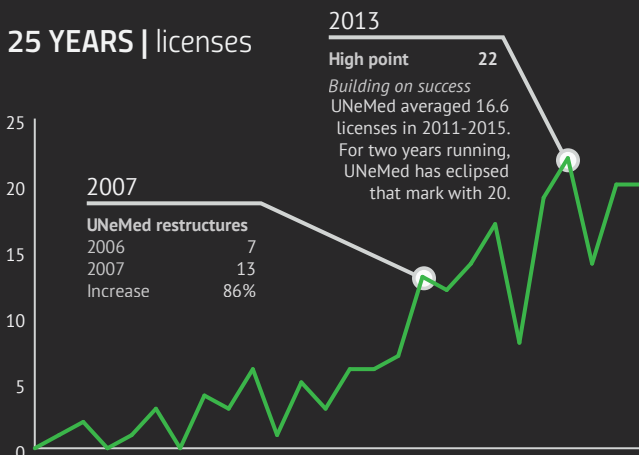
Core Metrics

Opportunities	153
Licenses	20
Active licenses	88
Products on market	36
Products in dev.	46
Startups	2

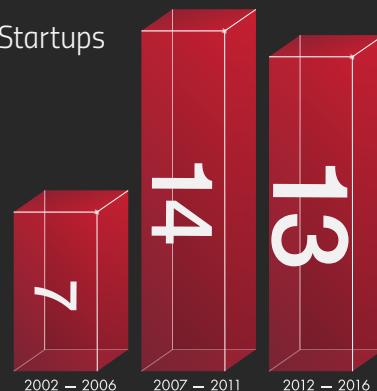
Opportunities

The 153 opportunities created in FY2016 accounts for the number of conversations UNeMed initiated with companies and investors interested in UNMC innovations. The 2016 total is a 59 percent improvement over the previous year and the highest total since UNeMed began tracking the measure in 2014.

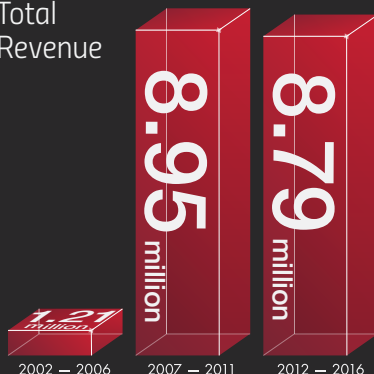
25 YEARS | licenses



Startups



Total Revenue



Core Metrics

Revenue	\$1,731,121
Sponsored research	\$649,028
Distributions	\$272,508

Metrics

Applications	367
Med	140
	99
	25





UNMC's U.S. patent holders

A list of UNMC personnel awarded U.S. Patents through June 31, 2016. List is ordered by the total number of U.S. Patents. Names are followed by total U.S. Patents issued, including patents that have been abandoned or expired.

1	Thomas Porter	19	Six with five: Jeffrey Ares, Ben Boedeker, Raymond Henry, Donald Miller, William Seibel, Russell Sheldon.	62 with two: Vincent Andoloro, William Banks, Douglas Barry, Joe Bartels, Kenneth Bermel, William Beschorner, Tatiana Bronich, Vashti Bryant, Thomas Bybee, Kimberly Carlson, George Casale, Ercole Cavalieri, William Charman, Wayne Childers, Paul Dunman, Adi Eisenberg, Grit Faulmann, Tom Frederick, Preston Gadson, Barry Gold, Gennady Gololobov, Jeff Hawks, Thomas Hejkal, Victor Kabanov, Ravishankar Kalaga, John Kenten, James Kipp, C. Kirk Phares, Leonid Kirnarsky, Peter Kolbeck, Zbigniew Kortylewicz, Marilyn Larson, Gary Leisman, Robert Lewis, Matthias Lohr, James Malone, Robert McCarthy, Nicolas Moniaux, R. Lee Mosley, Dave Murphy, Amarnath Natarajan, Nicholas Nikolaides, Patrick Olson, Dana Jo Orten, Maniyang Padmanilayam, Michel Quinlan, Rajule Rajkumar, Solon Rhode, Joerg Ringel, Eleanor Rogan, Thomas Rosenquist, Rajule Rujkumar, Kimberly Ryland, Sanjeeb Sahoo, Douglas Stack, Yuangqing Tang, Joseph Ulphani, Grish Varshney, Feng Xie, Xiang Yi, Qian Yi Chen, Inna Zevakina.
2	Patrick Iversen	17	Eight with four: Mark Faulkner, William Gmeiner, Steven Hinrichs, Maram Reddy, James Talmadge, Dean Tuma, Serguei Vinogradov, Stephen Wright.	
3	Rodney Markin	16	29 with three: Janina Baranowska-Kortylewicz, Randall Brand, Thomas Caffrey, Nora Chapman, Jacques Chollet, Yuxiang Dong, Tsuneya Ikezu, Peter Kador, Lynell Klassen, Karl Kohlgraf, Ming-Fong Lin, Richard Massey, Hugues Matile, Peter Maurer, Daniel Monaghan, Carl Nelson, Mike Newcomb, Michael Powell, Barrett Rabinow, Mark Rupp, Simon Sherman, Michael Sorrell, Stephen Taylor, Richard Tempero, Geoffrey Thiele, Steven Tracy, Guangshun Wang, Annika Weber, Robert Williams.	
3	Dmitry Oleynikov	16		
3	Mark Rentschler	16		
6	Alexander Kabanov	11		
6	Sudhir Paul	11		
8	Thomas McDonald	10		
9	Jonathan Vennerstrom	9		
10	Michael (Tony) Hollingsworth	8		
11	Surinder Batra	7	174 with one: Valery Alakhov, Irina Alymova, James Armitage, Catherine Atieno, Corbin Bachmeier, Anthony Barak, Andres Barrera, Elena Batrakova, Cara Baustian, Kenneth Bayles, Harriet Beckenhauer, Elliott Bedows, Arnaud Beduneua, Henry Bellamy, Volker Bertram, Daniel Betts, Charles Blake, Olga Bogdan, John Boje, Stephen Bonasera, Gloria Borgstahl, Gregory Bosch, Alissa Boukrinskala, Daniel Bozinov, Shelton Bradrick, Samuel Brown, J. Bruce Bavitz, Carl Camras, Lucinda Camras, Jonathan Carlson, Oleg Chaika, Wing (John) Chan, Joseph Corsini, Diane Costanzo-Garvey, Charles Cruze, Michael Curtis, Sandeep Dave, Allison DiMartino, Roy Dobson, Kathryn Done, James Dunn, Jeffrey Etter, Michael Faber, Larry Fennigkoh, Kai Fu, Michael Gazda, Catherine Gebhart, Richard Gibbs, Sheri Gilbert, Michael Godlewski, Gregory Gordon, Evan Goulding, Alan Goyzueta, Edward Grant, Timothy Greiner, Hani Haider, Susan Hallbeck, Chris Harvey, William Hawkins, Travis Henry, Tse Heong-Wai, Kenneth Himmelstein, Scott Hofmann, Olaf Holz, Peter Iwen, Colleen Jaeger, David Jane, Hongxia Jin, Tim Judkins, Srini Kaveri, Matthew Kelso, Kaustubh Kilkami, Sheri Kime, Gary Kipp, Anthony Kirkpatrick, Leonard Kirnarsky, Yurii Klimochkin, Sean Klopfenstein, Uday Kompella, Ghislaine Kouamou, Pullatikurthi Kumar, Maximilian Kurz, Robert Lahue, Henry Lemon, Lan Li, Xiang-der Liu, Oksana Lockridge, Richard Lomneth, Jeff Lovelace, Robert Luxenhofer, Helgo Magnussen, Lubomir Markov, Eric Markvicka, John Mata, John Mauer, Françoise Maxwell, Ian Maxwell, Ryan McCormick, Tom McGrail, Gary Meyer, Jeff MIDDAY, Glen Mieling, David Miller, Juan Miret, Jack Mondry, Emmanuel Monjok, Jonathan Morse, Patrick Moss, Sreenivasa Mundla, Randy Muth, James Neff, Chuck Niemeyer, Sunny Ohia, Joseph Ornato, Hasan Out, Toni Patton, Richard Pelletier, Moorthy Ponnusamy, Swita Raghava Singh, Jörg Rahnenfuhrer, Jordan Rainer, Jared Randall, Richard Reinhardt, Stephen Rennard, Ashley Reynolds, Ashley Reynolds Helseth, Jon Rice, Kelly Rice, Dennis Robinson, Jorge Rodriguez-Sierra, Jose Romero, Harry Rosenberg, Gary Rosenthal, Greg Rothman, Ronald Rubocki, James Sanders, Tadashi Sato, Khalid Sayood, A. Katrin Schenk, Eric Scholar, Aimee Schreiner, Alexander Serbin, Ken Sieger, Don Simms, Ajay Singh, LaVerne Small, Edward Snell, Marcus Snow, Louis Staudt, Nicholas Stergiou, Lena Stotskaya, Kyle Strabala, James Summerton, Li Sun, Sneha Sundaram, Bruce Tan, Jing Tong, Gerald Tussing, Jaspreet Vasir, Lawton Verner, Joseph Vetro, Julie Vose, Dong Wang, Jeffry Watkins, Dennis Weisenburger, Dwight Weller, Jane Werling, Jason Wilken, Andrew Wolfe, Tyler Wortman, George Wright, Milton Wyman, Guilin Zhan, Ji Zhang.	



1988 1989 1990 1991 1992 1993 1994 1995 1996 1997

U.S. patents issued to UNMC inventors

PATENT NO.	PATENT TITLE	ISSUED	INVENTOR(S)
9,421,341	Laryngeal Tube	Aug 23, 2016	Ben Boedeker, David Miller, Tom McGrail, Volker Bertram
9,403,281	Robotic Devices With Arms and Related Methods	Aug 2, 2016	Dmitry Oleynikov, Mark Rentschler, Shane Farritor, Jason Dumpert, Adnan Hadzialic, Stephen Platt, Nathan Wood
9,402,908	Polymeric Delivery Systems for Active Agents	Aug 2, 2016	Alexander Kabanov, Robert Luxenhofer, Jordan Rainer
9,364,443	Compositions and Methods for Drug Delivery	Jun 14, 2016	Howard Gendelman, Barrett Rabinow, Arnaud Beduneua, Jane Werling
9,353,094	Substituted Quinoxaline as Kinase Inhibitors	May 31, 2016	Amarnath Natarajan, Vashti Bryant, Qian Yi Chen, Rajkumar Rajule
9,320,814	Polyplexes of Hydrophobically-Modified siRNA for Delivery of siRNA	Apr 26, 2016	Joseph Vetro
9,315,534	Radiologic Agents for Monitoring Alzheimer's Disease Progression and Evaluating a Response to Therapy and Processes for the Preparation of Such Agents	Apr 19, 2016	Janina Baranowska-Kortylewicz, Zbigniew Kortylewicz
9,259,465	Methods and Compositions for Inhibiting Diseases of the Central Nervous System	Feb 16, 2016	R. Lee Mosley, Howard Gendelman, Ashley Reynolds Helseth
9,233,164	Water Soluble Fullerene Formulations and Methods of Use Thereof	Jan 12, 2016	Jing Tong, Alexander Kabanov
9,233,095	Small Molecule Rnase Inhibitors and Methods of Use	Jan 12, 2016	Paul Dunman, Patrick Olson, Wayne Childers
9,233,121	Compositions and Methods for the Treatment of Cancer	Jan 12, 2016	Moorthy Ponnusamy, Surinder Batra
9,179,862	Method and System for Assessing Locomotive Bio-Rhythms	Nov 10, 2015	Nicholas Stergiou, Maximillian Kurz
9,179,981	Multifunctional Operational Component for Robotic Devices	Nov 10, 2015	Shane Farritor, Amy Lehman, Mark Rentschler
9,149,537	Compositions and Methods for the Treatment of Traumatic Brain Injury	Oct 6, 2015	Matthew Kelso, Dong Wang
9,138,416	Sustained-Release Nanoparticle Compositions and Methods Using the Same	Sep 22, 2015	Vinod Labhasetwar, Sanjeeb Sahoo, Maram Reddy
9,106,718	Lifespace Data Collections from Discrete Areas	Aug 11, 2015	Stephen Bonasera, A. Katrin Schenk, Evan Goulding
9,089,545	Small Molecule Rnase Inhibitors and Methods of Use	Jul 28, 2015	Paul Dunman, Patrick Olson, Wayne Childers
9,089,353	Robotic Surgical Devices, Systems and Related Methods	Jul 28, 2015	Shane Farritor, Amy Lehman, Dmitry Oleynikov, Ryan McCormick, Tyler Wortman, Kyle Strabala
9,060,781	Methods, Systems, and Devices Relating to Surgical End Effectors	Jun 23, 2015	Shane Farritor, Tom Frederick, Joe Bartels
9,044,381	Method for Delivering Drugs to the Brain	Jun 2, 2015	Howard Gendelman, Barrett Rabinow
9,010,214	Local Control Robotic Surgical Devices and Related Methods	Apr 21, 2015	Shane Farritor, Eric Markvicka, Tom Frederick, Joe Bartels, Jack Mondry
8,998,804	Suction Catheter Assembly for a Laryngoscope	Apr 7, 2015	Ben Boedeker
8,993,758	Quinoxaline Compounds and Uses Thereof	Mar 31, 2015	Amarnath Natarajan, Vashti Bryant, Wian Yi Chen, Rajkumar Rajule
8,986,736	Method for Delivering Particulate Drugs to Tissues	Mar 24, 2015	Howard Gendelman, Barrett Rabinow
8,974,440	Modular and Cooperative Medical Devices and Related Systems and Methods	Mar 10, 2015	Shane Farritor, Mark Rentschler, Amy Lehman
8,968,267	Methods and Systems for Handling or Delivering Materials for Natural Orifice Surgery	Mar 3, 2015	Dmitry Oleynikov, Carl Nelson, Alan Goyzueta
8,968,332	Magnetically Coupleable Robotic Devices and Related Methods	Mar 3, 2015	Shane Farritor, Dmitry Oleynikov, Mark Rentschler, Jason Dumpert, Amy Lehman, Nathan Wood
8,962,685	Creatine Oral Supplementation Using Creatine Hydrochloride Salt	Feb 24, 2015	Jonathan Vennerstrom, Donald Miller
8,911,396	Sheath	Dec 16, 2014	Gregory Gordon
8,894,633	Modular and Cooperative Medical Devices and Related Systems and Methods	Nov 25, 2014	Shane Farritor, Mark Rentschler, Amy Lehman
8,877,766	Neuroprotective Multifunctional Antioxidants and Their Monofunctional Analogs	Nov 4, 2014	Peter Kador
8,871,497	Device and Method for Automating Microbiology Processes	Oct 28, 2014	Rodney Markin
8,865,216	Surface-modified Nanoparticles for Intracellular Delivery of Therapeutic Agents and Composition for Making Same	Oct 21, 2014	Vinod Labhasetwar, Jaspreet Vasir
8,834,488	Magnetically Coupleable Robotic Surgical Devices and Related Methods	Sep 16, 2014	Shane Farritor, Dmitry Oleynikov, Stephen Platt, Mark Rentschler, Jason Dumpert
8,828,024	Methods, Systems and Devices for Surgical Access and Procedures	Sep 9, 2014	Shane Farritor, Stephen Platt, Mark Rentschler, Amy Lehman, Jeff Hawks
8,821,943	Methods and Compositions for Targeted Delivery of Therapeutic Agents	Sep 2, 2014	Uday Kompella, Sneha Sundaram, Swita Singh
8,725,419	System and Method for Sequence Distance Measure for Phylogenetic Tree Construction	May 13, 2014	Khalid Sayood, Steven Hinrichs, Hasan Otu
8,722,616	Anti-HIV Peptides and Methods of Use Thereof	May 13, 2014	Guangshun Wang
8,679,096	Multifunctional Operational Component for Robotic Devices	Mar 25, 2014	Shane Farritor, Mark Rentschler, Amy Lehman

PATENTS *Continue on next six pages*

2008 2009 2010 2011 2012 2013 2014 2015 2016 2017

1978 1979 1980 1981 1982 1983 1984 1985 1986 1987

Patents *Continued from previous page*

PATENT NO.	PATENT TITLE	ISSUED	INVENTOR(S)
8,653,233	Compositions and Methods for Preventing or Treating Cancer	Feb 18, 2014	Michael (Tony) Hollingsworth, Karl Kohlgraf, Thomas Caffrey
8,604,742	Robotic Devices With Arms and Related Methods	Dec 10, 2013	Nathan Wood, Shane Farritor, Jason Dumpert, Mark Rentschler, Adnan Hadzialic, Stephen Platt, Dmitry Oleynikov
8,585,734	Ergonomic Handle and Articulating Laparoscopic Tool	Nov 19, 2013	Susan Hallbeck, Dmitry Oleynikov, Kathryn Done, Tim Judkins, Allison DiMartino, Jonathan Morse, Lawton Verner
8,560,047	Method and Apparatus for Computer Aided Surgery	Oct 15, 2013	Hani Haider, O. Andres Barrera
8,535,656	Amphiphilic Polymer-Protein Conjugates and Methods of Use Thereof	Sep 17, 2013	Alexander Kabanov, Xiang Yi, Serguei Vinogradov, William Banks
8,507,437	Apoptosis-Modulating P53 Protein Therapy for Vascular Disorders and Nanoparticles Containing the Same	Aug 13, 2013	Vinod Labhasetwar
8,491,890	Methods and Compositions for Inhibiting Diseases of the Central Nervous System	Jul 23, 2013	Howard Gendelman, R. Lee Mosley, Ashley Reynolds
8,486,909	Compositions and Methods for the Diagnosis and Treatment of Inflammatory Disorders and Fibrotic Diseases	Jul 16, 2013	Stephen Rennard, Tadashi Sato, Xiang-der Liu, Olaf Holz, Helgo Magnussen
8,415,400	Cross-Linked Ionic Core Micelles	Apr 9, 2013	Alexander Kabanov, Tatiana Bronich
8,393,329	Pediatric Lumbar Puncture Positioning Device	Mar 12, 2013	Marchcus Snow, Ken Sieger
8,354,450	Creatine Oral Supplementation Using Creatine Hydrochloride Salt	Jan 15, 2013	Donald Miller, Jonathan Vennerstrom, Mark Faulkner
8,343,171	Methods and Systems of Actuation in Robotic Devices	Jan 1, 2013	Shane Farritor, Mark Rentschler, Amy Lehman, Stephen Platt, Jeff Hawks
D669,171	Tongue Retractor	Oct 16, 2012	Ben Boedeker
8,268,849	Multifunctional Antioxidants and Methods of Use Thereof	Sep 18, 2012	Peter Kador, Hongxia Jin
8,196,238	Rotating Surgery Table	Jun 12, 2012	Thomas Hejkal, Kimberly Ryland, Carl Nelson
8,193,309	Compositions and Methods for Preventing or Treating Cancer	Jun 5, 2012	Michael (Tony) Hollingsworth, Karl Kohlgraf, Thomas Caffrey
8,182,807	Method and Composition for Inhibiting Reperfusion Injury in the Brain	May 22, 2012	Vinod Labhasetwar, Marcham Reddy
8,179,073	Robotic Devices With Agent Delivery Components and Related Methods	May 15, 2012	Nathan Wood, Shane Farritor, Jason Dumpert, Mark Rentschler, Adnan Hadzialic, Stephen Platt, Dmitry Oleynikov
8,168,222	Amphiphilic Polymer-Protein Conjugates and Methods of Use Thereof	May 1, 2012	Alexander Kabanov, Xiang Yi, Serguei Vinogradov, William Banks
8,158,667	Topical Treatment of Cataracts In Dogs	Apr 17, 2012	Peter Kador, Milton Wyman, Daniel Betts
8,131,475	Methods for Identifying, Diagnosing, and Predicting Survival of Lymphomas	Mar 6, 2012	James Armitage, Kai Fu, Dennis Weisenburger, Wing (John) Chan, Timothy Greiner, Julie Vose
8,092,838	Use of Hydrogen Sulfide in the Treatment of Eye Diseases	Jan 10, 2012	Guilin Zhan, Catherine Atieno, Emmanuel Monjok, Sunny Ohia, Kaustubh Kilkami, Ghislaine Kouamou
8,039,257	Pre-Transplant Accommodated Organs Resistant to Anti-Donor Immunity	Oct 18, 2011	William Beschorner
8,026,385	Creatine Oral Supplementation Using Creatine Hydrochloride Salt	Sep 27, 2011	Donald Miller, Jonathan Vennerstrom, Mark Faulkner
8,017,151	Amphiphilic Polymer-Protein Conjugates and Methods of Use Thereof	Sep 13, 2011	Serguei Vinogradov, Alexander Kabanov, Elena Batrakova
7,992,238	Rotating Surgery Table	Aug 9, 2011	Thomas Hejkal, Kimberly Ryland, Carl Nelson
7,985,836	Antimicrobial Peptides and Methods of Identifying the Same	Jul 26, 2011	Guangshun Wang
7,960,935	Robotic Devices With Agent Delivery Components and Related Methods	Jun 14, 2011	Nathan Wood, Shane Farritor, Jason Dumpert, Mark Rentschler, Adnan Hadzialic, Stephen Platt, Dmitry Oleynikov
7,842,479	Methods for Altering Acetic Acid Production and Enhancing Cell Death in Bacteria	Nov 30, 2010	Kenneth Bayles, Kelly Rice, Toni Patton
7,838,256	Assay and Kit For Drug Efflux Transporter Activity	Nov 23, 2010	Donald Miller, Corbin Bachmeier, Richard Lomneth
7,807,463	Transplant Organs Accommodated Prior to Transplantation to be Resistant to Anti-Donor Immunity	Oct 5, 2010	William Beschorner
D625,008	Magill Forceps	Oct 5, 2010	Ben Boedeker
7,772,796	Robotic Devices with Agent Delivery Components and Related Methods	Aug 10, 2010	Nathan Wood, Shane Farritor, Jason Dumpert, Mark Rentschler, Adnan Hadzialic, Stephen Platt, Dmitry Oleynikov
7,727,554	Sustained-Release Nanoparticle Compositions and Methods for Using the Same	Jun 1, 2010	Vinod Labhasetwar, Sanjeeb Sahoo, Marcham Reddy
7,723,564	Compositions and Methods for Modulation of KSR1 and KSR2 Interactions	May 25, 2010	Robert Lewis, Oleg Chaika
7,711,492	Methods for Identifying, Diagnosing, and Predicting Survival of Lymphomas	May 4, 2010	Sandeep Dave, Louis Staudt, George Wright, Bruce Tan
7,705,198	KSR2 Knockout Mice and Methods of Use Thereof	Apr 27, 2010	Robert Lewis, Aimee Schreiner, Diane Costanzo-Garvey
7,696,306	Compositions and Methods for Preventing or Treating Cancer	Apr 13, 2010	Michael (Tony) Hollingsworth, Karl Kohlgraf, Thomas Caffrey
7,662,939	Molecular Determinants of Tropism and Virulence in Enteroviruses	Feb 16, 2010	James Dunn, Jose Romero, Shelton Bradrick

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007

Patents *Continued from previous page*

PATENT NO.	PATENT TITLE	ISSUED	INVENTOR(S)
7,641,627	Method and Apparatus for Reducing Intraocular Pressure	Jan 5, 2010	Carl Camras, Lucinda Camras
7,608,641	Creatine Oral Supplementation Using Creatine Hydrochloride Salt	Oct 27, 2009	Donald Miller, Jonathan Vennerstrom, Mark Faulkner
7,598,356	Method for Purifying a Protein of the Cystine-Knot Superfamily	Oct 6, 2009	Elliott Bedows, Jason Wilken
7,521,230	Nucleic Acid Encoding a Brain Derived Tau Kinase Polypeptide and Methods of Use Thereof	Apr 21, 2009	Tsuneya Ikezu
7,492,116	Robot for Surgical Applications	Feb 17, 2009	Shane Farritor, Dmitry Oleynikov, Adnan Hadzialic, Stephen Platt
7,469,512	Fabricated Wall System	Dec 30, 2008	Michael Faber, Chuck Niemeyer
7,465,784	Antimicrobial Peptides and Methods of Identifying the Same	Dec 16, 2008	Guangshun Wang
7,466,798	Digital X-ray Camera for Quality Evaluation Three Dimensional Topographic Reconstruction of Single Crystals of Biological Macromolecules	Dec 16, 2008	Gloria Borgstahl, Jeff Lovelace, Edward Snell, Henry Bellamy
7,449,571	Halogenated Aminoquinolines and Oligonucleotides Containing the Same	Nov 11, 2008	Barry Gold
7,442,505	Compositions and Methods for Detecting Human Herpesviruses	Oct 28, 2008	Ronald Rubocki, Catherine Gebhart
7,422,875	Compositions and Methods for Increasing Protein Production	Sep 9, 2008	Alexander Kabanov, Valery Alakhov
7,372,229	Robot For Surgical Applications	May 13, 2008	Shane Farritor, Dmitry Oleynikov, Stephen Platt, Mark Rentschler, Jason Dumpert
7,368,546	Human SAA3 Nucleic Acid Molecule, Protein, and Methods of Use for Same	May 6, 2008	Thomas McDonald, Marilyn Larson, Annika Weber
7,358,087	Compositions and Methods for Enhancing Immune Responses Mediated by Antigen-Presenting Cells	Apr 15, 2008	Sam Sanderson, Michael (Tony) Hollingsworth, Richard Tempero
7,339,341	Surgical Camera Robot	Mar 4, 2008	Shane Farritor, Dmitry Oleynikov, Mark Rentschler, Stephen Platt, Jason Dumpert
7,332,159	Method and Composition for Inhibiting Reperfusion Injury in the Brain	Feb 19, 2008	Vinod Labhasetwar, Marcham Reddy
7,332,527	Cross-linked Ionic Core Micelles	Feb 19, 2008	Alexander Kabanov, Tatiana Bronich
7,304,084	6-[[[4, 5-Dihydro-1 H-Imidazol-2-yl] Amino]-7-Methyl-1 H-Benzimidazole-4-Carbonitrile and its Preferred Salt Form	Dec 4, 2007	Jared Randall, Richard Gibbs, Gregory Bosch, Michael Curtis, Li Sun, Nicholas Nikolaides
7,291,336	Compositions and Methods for Enhancing Immune Responses Mediated by Antigen-Presenting Cells	Nov 6, 2007	Sam Sanderson
7,238,524	Prostate Cancer Cell Lines	Jul 3, 2007	Ming-Fong Lin
7,220,730	Cancer Specific Radiolabeled Conjugates Regulated by the Cell Cycle for the Treatment and Diagnosis of Cancer	May 22, 2007	Janina Baranowska-Kortylewicz, Zbigniew Kortylewicz
7,214,512	Genomic MamMarchy Amyloid A Sequence	May 8, 2007	Thomas McDonald, Marilyn Larson, Annika Weber
7,199,545	Robot for Surgical Procedures	Apr 3, 2007	Shane Farritor, Dmitry Oleynikov, Adnan Hadzialic, Stephen Platt
7,198,949	Compositions and Methods for Altering the Biodistribution of Biological Agents	Apr 3, 2007	Thomas Porter, Patrick Iversen
7,189,401	Live Attenuated Viruses for Use as Vectors or Vaccines	Mar 13, 2007	Nora Chapman, Steven Tracy
7,175,626	Dynamic Compression Device and Driving Tool	Feb 13, 2007	James Neff
7,174,889	Device for Insertion of Endotracheal Tube	Feb 13, 2007	Ben Boedeker, Scott Hofmann
7,169,411	Compositions for Delivery of Biological Agents and Methods for the Preparation Thereof	Jan 30, 2007	Alexander Kabanov, Victor Kabanov, Adi Eisenberg
7,166,704	Antibodies Immunologically Specific for PD2, a Protein that is Amplified and Overexpressed in Pancreatic Cancer	Jan 23, 2007	Surinder Batra, Michael (Tony) Hollingsworth
7,126,303	Robot for Surgical Applications	Oct 24, 2006	Shane Farritor, Dmitry Oleynikov, Stephen Platt, Mark Rentschler, Jason Dumpert
7,115,583	Microbubble Compositions and Methods for Oligonucleotide Delivery	Oct 3, 2006	Thomas Porter, Patrick Iversen
7,105,657	Compositions and Methods for Inhibiting Pancreatic Cancer Metastasis	Sep 12, 2006	Surinder Batra, Ajay Singh, Nicolas Moniaux
7,094,533	Therapeutic and Diagnostic Applications of Prostatic Acid Phosphatase in Prostate Cancer	Aug 22, 2006	Ming-Fong Lin
7,078,188	MUC17 Encoding Nucleic Acid Sequences, Polypeptides, Antibodies and Methods of Use Thereof	Jul 18, 2006	Surinder Batra, Nicolas Moniaux
7,074,554	Antibodies Specific for NEBR1 and Methods of Use Thereof	Jul 11, 2006	Howard Gendelman, Tsuneya Ikezu, Gary Leisman, Kimberly Carlson
7,070,973	Butyrylcholinesterase Variants and Methods of Use	Jul 4, 2006	Jeffrey Watkins, Oksana Lockridge
7,063,847	Compositions and Methods for Enhancing Immune Responses Mediated by Antigen-Presenting Cells	Jun 20, 2006	Sam Sanderson, Michael (Tony) Hollingsworth, Richard Tempero
7,056,532	Compositions for Delivery of Biological Agents and Methods for the Preparation Thereof	Jun 6, 2006	Alexander Kabanov, Victor Kabanov, Adi Eisenberg
7,052,859	Specific Mucin Expression as a Marker for Pancreatic Cancer	May 30, 2006	Surinder Batra, Randall Brand, Joerg Ringel, Grit Faulmann, Matthias Lohr, Grish Varshney
7,042,184	Microrobot for Surgical Applications	May 9, 2006	Shane Farritor, Dmitry Oleynikov, Adnan Hadzialic, Stephen Platt
7,031,844	Cluster Analysis of Genetic Microarray Images	Apr 18, 2006	Daniel Bozinov, Jörg Rahnenführer

1978 1979 1980 1981 1982 1983 1984 1985 1986 1987

Patents *Continued from previous page*

PATENT NO.	PATENT TITLE	ISSUED	INVENTOR(S)
7,025,726	Detection of Endothelial Dysfunction by Ultrasonic Imaging	Apr 11, 2006	Thomas Porter, Feng Xie
6,916,816	Phenanthryl Piperazinyl Dicarboxylic Acids as Selective NMDA Receptor Modulating Agents	Jul 12, 2005	Daniel Monaghan, David Jane, Tse Heong-Wai
6,906,205	Spiro and Dispiro 1, 2, 4 - Trioxolane Antimalarials	Jun 14, 2005	Jonathan Vennerstrom, Yuxiang Dong, Jacques Chollet, Hugues Matile, Maniyan Padmanilayam, Yuangqing Tang, William Charman
6,896,120	Passive Transfer Guide for Conveyor Track	May 24, 2005	Douglas Barry, Inna Zevakina, Don Simms
6,897,334	Production of Creatine Esters Using In Situ Acid Production	May 24, 2005	Jonathan Vennerstrom
6,897,875	Methods and System for Analysis and Visualization of Multidimensional Data	May 24, 2005	Ji Zhang
6,872,523	Materials and Methods for Molecular Detection of Clinically Relevant, Pathogenic Fungal Species	Mar 29, 2005	Steven Hinrichs, Peter Iwen, Travis Henry
6,855,528	Methods for Identifying Inducers and Inhibitors of Proteolytic Antibodies, Compositions and Their Uses	Feb 15, 2005	Sudhir Paul, Gennady Golobov, Larry Smith
6,843,357	Two-Axis Robot for Specimen Transfer	Jan 18, 2005	Sheri Kime, Greg Rothman, Chris Harvey, Stephen Wright, Dave Murphy, Thomas Bybee
6,825,230	Spiro and Dispiro 1, 2, 4 - Trioxolane Antimalarials	Nov 30, 2004	Jonathan Vennerstrom, Yuxiang Dong, Jacques Chollet, Hugues Matile, Maniyan Padmanilayam, Yuangqing Tang, William Charman
6,821,517	Compositions and Methods for Enhancing Immune Response Mediated by Antigen-Presenting Cells	Nov 23, 2004	Sam Sanderson, Michael (Tony) Hollingsworth, Richard Tempero
6,814,951	Acetaldehyde and Malondialdehyde Protein Adducts as Markers for Alcohol Liver Disease	Nov 9, 2004	Geoffrey Thiele, Thomas McDonald, Dean Tuma, Lynell Klassen, Michael Sorrell
6,777,230	Prostate Cancer Cell Lines	Aug 17, 2004	Ming-Fong Lin
6,696,089	Nanogel Networks Including Polyion Polymer Fragments and Biological Agent Compositions Thereof	Feb 24, 2004	Alexander Kabanov, Serguei Vinogradov
6,692,453	Two Piece Wrist-Hand-Finger Orthosis	Feb 17, 2004	Andrew Wolfe
6,689,877	Methods and Compositions for the Treatment of Human Immunodeficiency Virus Infection	Feb 10, 2004	Howard Gendelman, Tsuneya Ikezu, Gary Leisman, Kimberly Carlson
6,686,338	Enzyme Inhibitors for Metabolic Redirection	Feb 3, 2004	Patrick Iversen
6,680,196	Gene That is Amplified and Overexpressed in Cancer and Methods of Use Thereof	Jan 20, 2004	Surinder Batra, Michael (Tony) Hollingsworth
6,673,778	Enzyme Inhibitors for Metabolic Redirection	Jan 6, 2004	Patrick Iversen
6,649,189	Methods for Use of Delivery Composition for Expanding, Activating, Committing or Mobilizing One or More Pluripotent Self-Renewing and Committed Stem Cells	Nov 18, 2003	Gary Rosenthal, James Talmadge, Jeffrey Etter
6,576,423	Specific Mucin Expression as a Marker for Pancreatic Cancer	Jun 10, 2003	Surinder Batra, Randall Brand, Joerg Ringel, Grit Faulmann, Matthias Lehr, Grish Varshney
6,575,967	Method and Systems for Volumetric Tissue Ablation	Jun 10, 2003	Randy Fox, Robert LeVeen
6,537,814	Compositions and Methods for Altering the Biodistribution of Biological Agents	Mar 25, 2003	Thomas Porter, Patrick Iversen
6,509,444	Serum Amyloid A Isoform from Colostrum	Jan 21, 2003	Thomas McDonald, Annika Weber
6,489,115	Genetic Assays for Trinucleotide Repeat Mutations in Eukaryotic Cells	Dec 3, 2002	Juan Miret, Richard Pelletier, Robert Lahue
6,486,190	5-(2-Imidazolylamino)-Benzimidazole Derivatives, Their Preparation and Their Use as Alpha-Adrenoceptor Agonists with Improved Metabolic Stability	Nov 26, 2002	Thomas Cupps, Sophie Bogdan, Nicholas Nikolaides, Sheri Gilbert, Michael Gazda, Roy Dobson, Charles Cruze
6,486,199	Spiro and Dispiro 1, 2, 4 - Trioxolane Antimalarials	Nov 26, 2002	Jonathan Vennerstrom, Yuxiang Dong, Jacques Chollet, Hugues Matile
6,469,027	N-Methyl-D-Aspartate (NMDA) Receptor Blockers for the Prevention of Atherosclerosis	Oct 22, 2002	Thomas Rosenquist, Daniel Monaghan, Preston Gadson, Vincent Andaloro
6,468,273	Methods for Volumetric Tissue Ablation	Oct 22, 2002	Randy Fox, Robert LeVeen
6,465,614	High-Affinity Response-Selective C-Terminal Analogs of C5a Anaphylatoxin	Oct 15, 2002	Sam Sanderson, Simon Sherman, Leonid Kirnarsky, Stephen Taylor
6,454,765	Methods for Volumetric Tissue Ablation	Sep 24, 2002	Randy Fox, Robert LeVeen
6,439,236	Methods for Inducing Atrial and Ventricular Rhythms Using Ultrasound and Microbubbles	Aug 27, 2002	Thomas Porter, Feng Xie
6,395,764	2-Imidazolylaminoindole Compounds Useful as Alpha-2 Adrenoceptor Agonists	May 28, 2002	Raymond Henry, Russell Sheldon, William Seibel
6,391,878	Guanidinyl Heterocycle Compounds Useful as Alpha-2 Adrenoceptor Agonists	May 21, 2002	Thomas Cupps, Sophie Bogdan, Raymond Henry, Russell Sheldon, William Seibel, Jeffrey Ares
6,325,129	Test Tube Orienting System	Dec 4, 2001	Stephen Wright, Dave Murphy
6,323,024	Coxsackie Virus Vectors for Delivery of Nucleic Acids Encoding Antigenic or Therapeutic Products	Nov 27, 2001	Steven Tracy, Nora Chapman, Peter Kolbeck, James Malone
6,245,747	Targeted Site Specific Drug Delivery Compositions and Methods of Use	Jun 12, 2001	Thomas Porter, Patrick Iversen, Gary Meyer
6,235,714	Methods for Identifying Inducers and Inhibitors of Proteolytic Antibodies, Compositions and Their Uses	May 22, 2001	Sudhir Paul, Gennady Golobov, Larry Smith
6,225,331	Guanidinyl Heterocycle Compounds Useful as Alpha-2 Adrenoceptor Agonists	May 1, 2001	Thomas Cupps, Sophie Bogdan, Raymond Henry, Russell Sheldon, William Seibel, Jeffrey Ares

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PATENT NO.	PATENT TITLE	ISSUED	INVENTOR(S)
6,197,345	Thrombolytic Agents and Methods of Treatment For Thrombosis	Mar 6, 2001	Thomas, Porter
6,177,050	Container Positioning Device	Jan 23, 2001	Inna Zevakina, Thomas Bybee
6,161,759	Bar Code Reader	Dec 19, 2000	Patrick Moss, Douglas Barry
6,162,818	2-Imidazolylaminoindole Compounds Useful as Alpha-2 Adrenoceptor Agonists	Dec 19, 2000	Raymond Henry, Russell Sheldon, William Seibel
6,156,541	Compositions and Methods for Catalyzing Hydrolysis of HIV gp120	Dec 5, 2000	Sudhir Paul, Ravishankar Kalaga
6,130,049	Assay Methods and Kits for Diagnosing Autoimmune Disease	Oct 10, 2000	Sudhir Paul, Ravishankar Kalaga
6,124,271	Method and Conjugate for Treating H.pylori Infection	Sep 26, 2000	Patrick Iversen, Randall Brand, Dwight Weller, James Summerton
6,120,777	High Fluorescence Specific Immune Enhancing Factor and Methods of Use	Sep 19, 2000	Geoffrey Thiele, Thomas McDonald, Dean Tuma, Lynell Klassen, Michael Sorrell
6,117,858	Compositions and Methods for Altering the Biodistribution of Biological Agents	Sep 12, 2000	Thomas Porter, Patrick Iversen
6,080,386	Suspended Ultrasound induced Microbubble Cavitation Imaging	Jun 27, 2000	Thomas Porter
6,071,742	Coxsackie Virus as a Vector for Delivery of Anti-Inflammatory Cytokines	Jun 6, 2000	Steven Tracy, Nora Chapman, Peter Kolbeck, James Malone
6,068,437	Automated Laboratory Specimen Organizer and Storage Unit	May 30, 2000	Rodney Markin, Samuel Brown, John Boje
6,066,740	Process for Making 2-Amino-2-Imidazoline, Guanidine and 2-Amino-3, 4, 5, 6-Tetrahydropyrimidine Derivatives	May 23, 2000	Michael Godlewski, Sean Klopfenstein, Sreenivasa Mundla, William Seibel, Randy Muth
6,025,369	N-Methyl-D-Asparate (NMDA) Receptor Blockers for the Prevention of Atherosclerosis	Feb 15, 2000	Thomas Rosenquist, Daniel Monaghan, Preston Gadson, Vincent Andaloro
5,985,670	Method for Automatic Testing of Laboratory Specimens	Nov 16, 1999	Rodney Markin
5,980,950	Thrombolytic Agents and Methods of Treatment for Thrombosis	Nov 9, 1999	Thomas Porter
5,952,183	Synthesis of Estrogen-purine Base and Estrogen-mercaptopurine Adducts and Development of Fluorescent Probes and Monoclonal Antibodies to Assay Those Adducts	Sep 14, 1999	Ercole Cavalieri, Eleanor Rogan, Douglas Stack, George Casale
5,941,366	Transport System for Biospecimens	Aug 24, 1999	Michel Quinlan, Stephen Wright, Edward Grant
5,942,599	High Affinity Response-Selective C-Terminal Analogs of C5A Anaphylatoxin	Aug 24, 1999	Sam Sanderson, Simon Sherman, Leonid Kirnarsky, Stephen Taylor
5,939,535	Acetaldehyde and Malondialdehyde Protein Adducts	Aug 17, 1999	Geoffrey Thiele, Thomas McDonald, Dean Tuma, Lynell Klassen, Michael Sorrell
5,912,232	Anti-Inflammatory Polypeptide Antagonists Derived from IL-8	Jun 15, 1999	James Talmadge
5,910,483	Pleroceroicid Growth Factor Protein Purified from Spirometra Mansonoides	Jun 8, 1999	C. Kirk Phares
5,880,154	Polymeric Adamantane Analogues	Mar 9, 1999	Alissa Boukrinskala, Olga Bogdan, Yurii Klimochkin, Irina Alymova, Lena Stotskaya, Alexander Serbin
5,877,276	Polypeptide Agonists for Human Interleukin-8	Mar 2, 1999	James Talmadge
5,874,567	Therapeutic Oligonucleotides Targeting the Human MDR1 and MRP Genes	Feb 23, 1999	Larry Smith
5,868,740	Apparatus for Volumetric Tissue Ablation	Feb 9, 1999	Randy Fox, Robert LeVeen
5,855,576	Apparatus for Volumetric Tissue Ablation	Jan 5, 1999	Randy Fox, Robert LeVeen
5,849,727	Compositions and Methods for Altering the Biodistribution of Biological Agents	Dec 15, 1998	Thomas Porter, Patrick Iversen
5,844,110	Synthetic Triple Helix-Forming Compound Precursors	Dec 1, 1998	Barry Gold
5,844,096	Methods for Inhibiting Transportation of the Cyclic Amp Responsive Element Binding Protein and the Activating Transcription Factor 1	Dec 1, 1998	Steven Hinrichs, Dana Jo Orten
5,839,393	Animal Restraint Jacket	Nov 24, 1998	Mark Rupp, Joseph Ulphani
5,840,889	Synthesis of Estrogen-purine Base and Estrogen-mercaptopurine Adducts and Development of Fluorescent Probes and Monoclonal Antibodies to Assay Those Adducts	Nov 24, 1998	Ercole Cavalieri, Eleanor Rogan, Douglas Stack, George Casale
5,827,276	Apparatus for Volumetric Tissue Ablation	Oct 27, 1998	Randy Fox, Robert LeVeen
5,804,587	6-(2-Imidazolylamino)Quinoline Compounds Useful as Alpha-2 Adrenoceptor Agonists	Sep 8, 1998	Thomas Cupps, Peter Maurer, Jeffrey Ares, Raymond Henry, Russell Sheldon, Glen Mieling, Sophie Bogdan
5,800,780	Elevator for Automated Conveyor System	Sep 1, 1998	Rodney Markin
5,769,775	Automated Centrifuge for Automatically Receiving and Balancing Samples	Jun 23, 1998	Michel Quinlan, Stephen Wright, Lubomir Markov
5,767,517	Hybrid Resampling Method for Fan Beam Spect	Jun 16, 1998	William Hawkins
5,762,636	Intravascular Catheter	Jun 9, 1998	Mark Rupp, Joseph Ulphani
5,740,807	Suspended Ultra-Sound Induced Microbubble Cavitation Imaging	Apr 21, 1998	Thomas Porter
5,741,900	Method for Preparing Poly (FdU)N	Apr 21, 1998	Patrick Iversen, William Gmeiner
5,739,148	6-(2-Imidazolylamino)Quinoline Compounds Useful as Alpha-2 Adrenoceptor Agonists	Apr 14, 1998	Thomas Cupps, Peter Maurer, Jeffrey Ares

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PATENT NO.	PATENT TITLE	ISSUED	INVENTOR(S)
5,728,403	Coating Technology for Taste Masking Orally Administered Bitter Drugs	Mar 17, 1998	John Mauger, Dennis Robinson
5,718,694	Inhibition of Adherence of Microorganisms to Biomaterial Surfaces by Treatment with Carbohydrates	Feb 17, 1998	Mark Rupp
5,701,899	Perfluorocarbon Ultrasound Contrast Agent and Methods for its Manufacture and Use	Dec 30, 1997	Thomas Porter
5,696,230	High-Affinity Response-Selective C-Terminal Analogs of C5A Anaphylatoxin	Dec 9, 1997	Sam Sanderson, Simon Sherman, Leonard Kimnarsky, Stephen Taylor
5,695,740	Perfluorocarbon Ultrasound Contrast Agent Comprising Microbubbles Containing a Filmogenic Protein and a Saccharide	Dec 9, 1997	Thomas Porter
5,693,498	DNA Encoding a Plerocercoid Growth Factor	Dec 2, 1997	C. Kirk Phares
5,691,370	5-(2-Imidazolylamino)Benzimidazole Compounds Useful as Alpha-2 Adrenoceptor Agonists	Nov 25, 1997	Thomas Cupps, Sophie Bogdan
5,685,310	Suspended Ultrasound Microbubble Imaging	Nov 11, 1997	Thomas Porter
5,683,987	Therapeutic Oligonucleotides Targeting the Human MDR1 and MRP Genes	Nov 4, 1997	Larry Smith
5,663,321	Oligonucleotides Pro-Drugs Containing 5-Fluorouracil	Sep 2, 1997	Patrick Iversen, William Gmeiner
5,658,753	Catalytic Antibody Components (continuation of 63010)	Aug 19, 1997	Sudhir Paul, Michael Powell, Richard Massey, John Kenten
5,654,415	Antisense Oligonucleotides to P53	Aug 5, 1997	Larry, Smith
5,654,158	Methods for Detection of Nephropathy-Related Immunoglobulin G Using Monoclonal Antibodies Specific for Nephropathy-Related Immunoglobulin G	Aug 5, 1997	Thomas McDonald
5,648,098	Thrombolytic Agents and Methods of Treatment for Thrombosis	Jul 15, 1997	Thomas Porter
5,643,890	Synthetic Oligonucleotides Which Mimic Telomeric Sequences for Use in Treatment of Cancer and Other Diseases	Jul 1, 1997	Patrick Iversen, John Mata
5,641,486	Methods for Inhibiting Transcription of the Cyclic AMP Responsive Element Binding Protein and the Activating Transcription Factor 1	Jun 24, 1997	Steven Hinrichs, Dana Jo Orten
5,641,754	Antisense Oligonucleotide Compositions for Selectively Killing Cancer Cells	Jun 24, 1997	Patrick Iversen
5,627,156	Polypeptide Agonists for Human Interleukin-8	May 6, 1997	James Talmadge
5,618,796	Metal Binding Oligonucleotide and Methods and Compositions for Their Use to Treat Metal Toxicity	Apr 8, 1997	Patrick Iversen
5,613,852	Dental Implant Drill Guide System	Mar 25, 1997	J. Bruce Bavitz
5,614,505	Method of Treating Cancer with Homo-Oligonucleotides of 5FU 5'-Monophosphate	Mar 25, 1997	Patrick Iversen, William Gmeiner
5,614,415	Method for Automatic Testing of Laboratory Specimens	Mar 25, 1997	Rodney Markin
5,602,015	Autoantibodies Which Enhance the Rate of a Chemical Reaction	Feb 11, 1997	Sudhir Paul
5,599,534	Reversible Gel-Forming Composition for Sustained Delivery of Bio-Affecting Substances, and Method of Use	Feb 4, 1997	Cara Baustian, Kenneth Himmelstein
5,599,538	Autoantibodies which enhance the rate of a chemical reaction	Feb 4, 1997	Sudhir Paul, Lan Li, Srinu Kaveri
5,589,137	Specimen Carrier	Dec 31, 1996	Rodney Markin, Mike Newcomb
5,585,254	Autonomous Parvovirus Gene Delivery Vehicles and Expression Vectors	Dec 17, 1996	Solon Rhode, Ian Maxwell, Jonathan Carlson, Joseph Corsini, Francoise Maxwell
5,578,607	6-(2-Imidazolylamino)Quinoline Compounds Useful as Alpha-2 Adrenoceptor Agonists	Nov 26, 1996	Thomas Cupps, Peter Maurer, Jeffrey Ares
5,578,291	Method and Composition for Optimizing Left Ventricular Videointensity in Echocardiography	Nov 26, 1996	Thomas Porter
5,567,386	Elevator and Specimen Carrier for Automated Conveyor System	Oct 22, 1996	Rodney Markin
5,567,415	Ultrasound Contrast Agents and Methods for Their Manufacture and Use	Oct 22, 1996	Thomas Porter
5,562,202	Track for Automated Conveyor System	Oct 8, 1996	Mike Newcomb, Kenneth Bernel
5,560,364	Suspended Ultra-Sound Induced Microbubble Cavitation Imaging	Oct 1, 1996	Thomas Porter
5,552,390	Phosphorothioate Inhibitors of Metastatic Breast Cancer	Sep 3, 1996	Patrick Iversen, Eric Scholar
5,543,710	Conformal Solenoidal Coil	Aug 6, 1996	Randall Jones
5,541,210	5-(2-Imidazolylamino)Benzimidazole Compounds Useful as Alpha-2 Adrenoceptor Agonists	Jul 30, 1996	Thomas Cupps, Sophie Bogdan
5,534,431	Hybridomas and Monoclonal Antibodies Specific for Unique Determinants of Nephropathy-Related Immunoglobulin G and Complexes Thereof	Jul 9, 1996	Thomas McDonald
5,529,166	Central Control Apparatus for an Automated Laboratory Conveyor System	Jun 25, 1996	Rodney Markin, Eldon Tackett, Stephen Hoskinson
5,514,863	Return Mail Piece and Method of Marking Same	May 7, 1996	Robert Williams
5,510,984	AGV Enunciator System	Apr 23, 1996	Rodney Markin, Gary Kipp

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PATENT NO.	PATENT TITLE	ISSUED	INVENTOR(S)
5,510,608	Return Mail Piece and Method of Marking Same	Apr 23, 1996	Robert Williams
5,510,356	Bisquinolines and Processes for their Production and use to Treat Malaria	Apr 23, 1996	Jonathan Vennerstrom
5,505,138	Support System for Conveyor Track	Apr 9, 1996	Mike Newcomb, Kenneth Bermel
5,480,642	Synthetic Immunoregulators and Methods of Use and Preparation	Jan 2, 1996	Robert McCarthy
5,478,858	5-(2-Imidazolylamino)Benzimidazole Compounds Useful as Alpha-2 Adrenoceptor Agonists	Dec 26, 1995	Thomas Cupps, Sophie Bogdan
5,477,146	NMR Adjustable Volume Array	Dec 19, 1995	Randall Jones
5,468,853	Synthesis of 5-Radiohalo-2'-Deoxyuridine	Nov 21, 1995	Janina Baranowska-Kortylewicz
5,457,187	Oligonucleotides Containing 5-Fluorouracil	Oct 10, 1995	Patrick Iversen, William Gmeiner
5,431,623	Knee Hyperextension Block Orthosis	Jul 11, 1995	Jon Rice
5,430,378	NMR Quadrature Detection Array	Jul 4, 1995	Randall Jones
5,428,063	Use of Betaine as a Hepatic Generator of S-Adenosylmethionine and as a Protective Agent Against Hepatotoxicity	Jun 27, 1995	Anthony Barak, Dean Tuma, Harriet Beckenhauer
5,427,743	Specimen Carrier	Jun 27, 1995	Rodney Markin
5,417,922	Specimen Carrier	May 23, 1995	Rodney Markin, Eldon Tackett, Stephen Hoskinson
5,402,875	Transfer Apparatus with Operable Jaws for a Conveyor System	Apr 4, 1995	Rodney, Markin, Eldon Tackett, Stephen Hoskinson
5,390,672	NMR Liver Coil	Feb 21, 1995	Randall Jones
5,377,813	Corner Track for a Conveyor System	Jan 3, 1995	Rodney Markin, Eldon Tackett, Stephen Hoskinson
5,370,215	Specimen Carrier Transfer Apparatus for a Conveyor System	Dec 6, 1994	Rodney Markin, Eldon Tackett, Stephen Hoskinson
5,366,062	Restraining Apparatus for a Conveyor System	Nov 22, 1994	Rodney Markin, Eldon Tackett, Stephen Hoskinson
5,351,688	NMR Quadrature Detection Solenoidal Coils	Oct 4, 1994	Randall Jones
5,351,801	Automated Laboratory Conveyor System	Oct 4, 1994	Rodney Markin, Eldon Tackett, Stephen Hoskinson
5,343,862	NMR Shoulder Coil	Sep 6, 1994	Randall Jones
5,324,927	Return Mail Piece and Method of Marking Same	Jun 28, 1994	Robert Williams
5,318,897	Monoclonal Antibody and Antibody Components Elicited to a Polypeptide Antigen Ground State	Jun 7, 1994	Sudhir Paul
5,307,806	NMR Relvic Coil	May 3, 1994	Randall Jones
5,302,517	Method of Controlling the Expression of a Gene in a Cell Culture, Cell Culturevector Used in the Method and Method of Making the Vector	Apr 12, 1994	Solon Rhode
5,266,927	Personal Protection Device (logalert)	Nov 30, 1993	James Sanders
5,248,671	Methods and compositions for treatment of cancer using oligonucleotides	Sep 28, 1993	Larry Smith
5,236,836	Autoantibodies Which Enhance the Rate of a Chemical Reaction	Aug 17, 1993	Sudhir Paul
5,229,272	Catalytic Antibody Components	Jul 20, 1993	Sudhir Paul, Michael Powell, Richard Massey, John Kenten
5,194,585	Inhibitors of Catalytic Antibodies	Mar 16, 1993	Sudhir Paul, Michael Powell, Richard Massey
5,116,766	Immune Complex Isolation	May 26, 1992	Thomas McDonald
5,087,617	Methods and compositions for treatment of cancer using oligonucleotides	Feb 11, 1992	Larry Smith
4,937,238	Prevention of MamMarchy Carcinoma	Jun 26, 1990	Henry Lemon
4,790,751	Dental Viewing Apparatus and Method	Dec 13, 1988	Richard Reinhardt, Gerald Tussing
4,783,525	Preparation of Reagent for Immune Complex Isolation	Nov 8, 1988	Thomas McDonald
4,590,181	Synthetic Immunoregulators and Methods of Use and Preparation	May 20, 1986	Robert McCarthy
4,457,312	Method and Apparatus for Providing Records of Events During a Cardiac Arrest	Jul 3, 1984	Colleen Jaeger, Joseph Ornato, Larry Fennigkoh
4,434,789	Apparatus for Treating Carcinoma of the Uterine Cervix	Mar 6, 1984	Pullatikurthi Kumar
4,427,669	Contraceptive	Jan 24, 1984	Jorge Rodriguez-Sierra, Charles Blake
4,338,320	Esters of 6'-Hydroxycinchonine, and a Method of Treating Arrythmia with Them	Jul 6, 1982	Harry Rosenberg, LaVerne Small
4,306,018	Method of Gas-Heat Exchange	Dec 15, 1981	Anthony Kirkpatrick



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