

NDRI Honors Those Who Have Accelerated Research from Discovery to Cure

Science Awards Presented at Annual Trustee's Dinner May 15, 2007



Griffin P. Rodgers, M.D., M.A.C.P., Director, National Institute of Diabetes & Digestive & Kidney Diseases, NIH.

Those who have used their “*power to make a difference*” in disease research were honored at the NDRI Board of Trustee’s Dinner in Philadelphia on May 15, 2007. NDRI presented the “*Outstanding Science Award, 2007*” to NIDDK, the National Institute of Diabetes & Digestive & Kidney Diseases, National Institutes of Health (NIH). Accepting the award was Director Griffin P. Rodgers, M.D., M.A.C.P., who spoke on “Special Research Initiatives and New Discoveries.” In addition, an “*Outstanding Science Award, 2007*” was presented to Lou Philipson, M.D., Ph.D., noted endocrinologist, researcher and Professor of Medicine at the University of Chicago, who was recognized for his work related to the screening, diagnosis and treatment of patients with recently discovered subtypes of diabetes. He spoke to “Highlighting Discoveries of New Subtypes of Diabetes.” “*The Distinguished Service to Science*” award was presented to NDRI’s long-time collaborator, the Gift of Life Donor Program, accepted by President and CEO Howard Nathan. “*The Outstanding Spirit Award, 2007*” was given to the Do-Gooders, accepted by Co-Founder Gerry Sills.

Outstanding Science Award, 2007 to NIDDK *Accepted by Director Griffin P. Rodgers, M.D., M.A.C.P.*

NDRI presented NIDDK with the “*Outstanding Science Award, 2007*,” focusing on the impactful support the Institute has given to a variety of disease research. In anticipation of his acceptance of the award on behalf of NIDDK and its many participating intramural and extramural investigators, Director Griffin P. Rodgers, M.D., M.A.C.P., commented, “Ever-increasing knowledge and the advent of new technologies bring new scientific opportunities for alleviating and conquering the many chronic diseases within the NIDDK’s mission. Our continuing goal will be to seize and maximize these opportunities to reduce the burden of disease and improve the public health. Importantly,” he added, “as we plan for the future, we will continue to seek and value external advice from investigators, professional scientific organizations, patient advocates and the public. To this end, I look forward to working with members of the National Disease Research Interchange now and in the future.”

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NDRI Moves Ahead with Hal Broxmeyer, Ph.D. at the Helm

The NDRI Board of Directors welcomes as their new chairman, Hal E. Broxmeyer, Ph.D., Distinguished Professor, Chairman and Mary Margaret Walther Professor of Microbiology and Immunology and Scientific Director, the Walther Oncology Center at the Indiana University School of Medicine. Dr. Broxmeyer has served on the NDRI Board of Directors for some years and assumed the chairmanship on May 15, 2007 for a two-year term.

“Scientists need the resources NDRI provides to continue to improve health care. I can’t envision a time when there will not be a need for NDRI’s services.”

—Hal E. Broxmeyer, Ph.D.

Cord blood transplant pioneer

Among his many scientific accomplishments, Dr. Broxmeyer is credited with leading the way to the first successful use of human cord blood for clinical transplantation. His laboratory served as the first cord blood bank in the world and provided the cord blood cells used for the very first group of transplants performed.

As a scientist who studies human biology and its applications in the clinic, Dr. Broxmeyer has an understanding and appreciation for the tissue collection network NDRI has fostered and the services it provides to investigators. “NDRI has done a wonderful job providing scientists with the human cells and tissues they need to enhance their research capabilities. I am absolutely amazed at how many different kinds of specimens NDRI is able to get into the hands of investigators who are working toward major discoveries. We want to keep that momentum going.”

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Hal E. Broxmeyer, Ph.D., Distinguished Professor and Chairman & Mary Margaret Walther Professor of Microbiology and Immunology and Scientific Director, the Walther Oncology Center at the Indiana University School of Medicine.

NDRI Moves Ahead with Hal E. Broxmeyer, Ph.D. At the Helm

Dr. Broxmeyer says that opportunities to expand NDRI's service to the research community are many, but he advises a measured approach to moving forward. "NDRI is a very high quality organization, and our goal is to maintain that level of quality and efficiency as we consider expanding services," he says.

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"There are so many people doing outstanding research, and I'm still not sure all of them who need human tissues are aware they can get them from NDRI," he adds. Besides spreading the word to investigators, Dr. Broxmeyer is enthusiastic about NDRI's initiatives to make more people aware of the opportunity to donate human cells and tissues to science from living and deceased donors. "Scientists need the resources NDRI provides to continue to improve health care," he adds, "I can't envision a time when there will not be a need for NDRI's services."

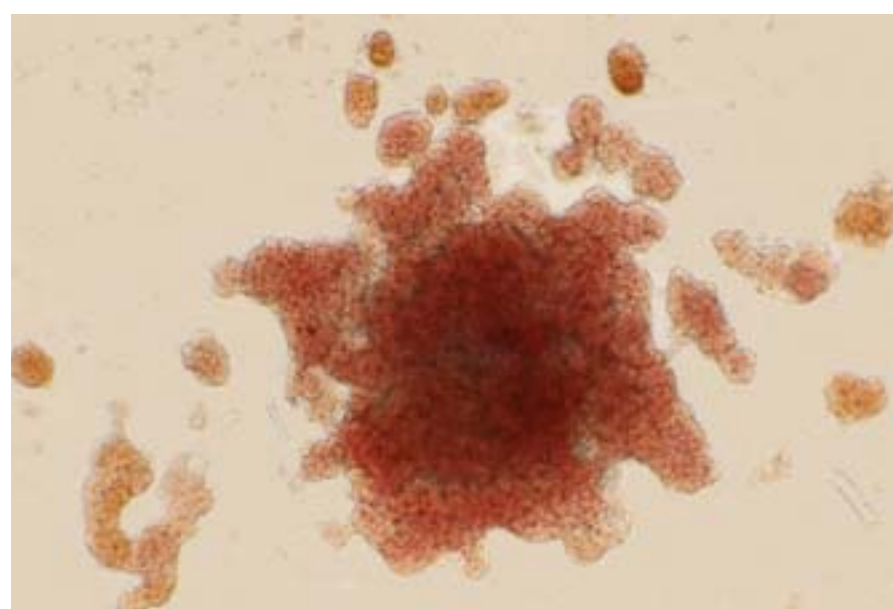
Moving from bench to bedside

Dr. Broxmeyer's lab continues to work on the survival, proliferation, self-renewal, and homing of hematopoietic stem/progenitor cells from cord blood, and through numerous preclinical and clinical trials has established the means to enhance hematopoiesis. His studies have demonstrated the enhanced quality of stem/progenitor cells from cord blood and their greater proliferative and self-renewal capacity than those from bone marrow. "A major effort in our lab right now is to enhance the homing efficiency of hematopoietic stem cells to their bone marrow micro-environmental niche," he explains.

"If we can enhance the ability of the cells to get to where they need to be (i.e., their homing efficiency), we won't need as many cells to achieve the same benefit." This particularly becomes important, he adds, with cord blood where cell populations are limited to the quantity available at the birth of a baby. Better homing efficiency would reduce the amount of cells required for transplant and thereby increase the number of adults and children who might potentially benefit from transplant therapy. These would include individuals with malignant tumors or cancers of

the blood whose healthy stem cells are depleted from chemotherapy and radiation treatments, as well as others with certain genetic disorders.

Dr. Broxmeyer's lab is continuing to research ways to enhance cord blood transplantation. Studies from his group, in press, have demonstrated that inhibition of CD26 on human cord blood CD34+ cells enhances their engraftment in NOD/SCID mice. This follows up on the work they published in 2004 in *Science* demonstrating enhanced engraftment of mouse bone marrow stem cells into lethally irradiated mice. He is trying to take this technology to the clinic, and is currently collaborating with other investigators to evaluate this in dogs and monkeys. In addition to his work with hematopoietic stem cells and embryonic stem cells, Dr. Broxmeyer's lab is also working with immune cells in cord blood and has published possible reasons for lowered graft vs. host disease (GVHD) with cord blood as opposed to bone marrow transplants. His lab is also looking at ways to enhance mobilization of adult peripheral blood stem cells for transplantation. ■



Colony of cells containing a number of different blood lineages including red blood cells, formed after a multipotential progenitor cell colony derived from human cord blood was replated in a secondary culture plate. This demonstrated the extensive replating "self-renewal" capacity of cord blood multipotential progenitors. Courtesy of Hal Broxmeyer, Ph.D., University of Indiana School of Medicine.

Bio Sketch on Dr. Broxmeyer

From 1988 through the present, Dr. Broxmeyer has served as the Scientific Director of the Walther Oncology Center in Indianapolis. From 1989 to 1996, he was the Mary Margaret Walther Professor of Medicine at Indiana, and in 1997 he became Chairman and Mary Margaret Walther Professor of Microbiology and Immunology. He received the title of Distinguished Professor from Indiana University in 2004. He has a long track record of continuous extramural grant funding dating back to 1976, which underlines his scientific accomplishments. He has authored 449 publications in respected peer-reviewed journals, 169 book chapters/reviews, and 475 abstracts.

Dr. Broxmeyer is the recipient of numerous awards for his work on cytokine regulation of hematopoiesis in normal and malignant states. In 1993, he received the "Gold Medal of the City of Paris" for his research in hematopoiesis and cord blood transplantation and for his support of basic and clinical research efforts in France. In 2002 he received the "Karl Landsteiner Award," from the American Association of Blood Banks for his laboratory work that helped to establish the field of cord blood transplantation. In November 2006, he received the "Dirk van Bekkum Award," from the Autologous Blood and Bone Marrow Society, which is bestowed on individuals who have made major contributions for a prolonged period of time to the field of hematopoietic stem cells and transplantation. In 2006, he also received the "Joseph T. Taylor Excellence in Diversity Award" from Indiana University.

Dr. Broxmeyer has served on and chaired committees at NIH, the voluntary health community and professional research societies. Most recently he was a member of the External Advisory Committee, as well as Chairman of the Board of Scientific Counselors, of the National Space Biomedical Research Institute, NASA (1998-2006). He has also served on many scientific editorial boards, including 11 at present. He is currently on the Cord Blood Committee of the National Marrow Donor Program.



For information about obtaining cells, tissues and organs (including rare disease specimens, bone marrow, cord blood and stem cell derivatives), call NDRI at 800-222-6374 or visit our website at www.ndriresource.org

NDRI Launches a National Campaign to Expand Tissue Donations to Science

“Tissues for Research – Making a Difference While We’re Alive!”

If you could help a scientist on the verge of a big breakthrough with just one phone call, would you do it? NDRI is confident the answer is “yes!” This spring, NDRI launched a new initiative: *“Tissues for Research - Making a Difference While We’re Alive”* to inform and empower people who are about to have surgery or give birth to donate tissues that would otherwise be discarded to the scientists who need them for research.

NDRI Board Member Meenhard Herlyn, D.V.M., D.Sc., Professor and Program Leader, Molecular and Cellular Oncogenesis Program at The Wistar Institute, Philadelphia, emphasizes, “A key feature of research today is the quick translation of what is learned in the lab into practical use for patients.” Donations of surgical specimens and products from deliveries are important sources of stem cells, for example, so critical for research into many of today’s major illnesses, including cancer. Dr. Herlyn’s own tumor research, focusing on tumor stem cell function and proliferation, for example, requires fresh tissue specimens. “These tumor stem cells are very rare,” he says, “only about one in 60,000 tumor cells is a stem cell.” The process of stem cells dividing and spreading keeps tumors alive and expanding. Having sufficient human specimens to work with will help accelerate the research into new therapies that will target tumor stem cell growth and proliferation. “There must be a seamless transfer from tissue donors to the researcher, and NDRI plays a critical role in this process,” he adds. Particularly, he says, “in expanding collection of specimens beyond large academic medical centers to community hospitals and clinics.”

The process is simple for donors

NDRI is committed to providing the nation’s top scientific laboratories with donated human cells, tissues and organs to promote a better understanding of human diseases and to foster the development of new drugs, new treatments and new cures. Whether healthy or diseased, human tissue is precious to researchers studying illnesses ranging from cancer to diabetes, glaucoma, Parkinson’s and HIV/AIDS. According to NDRI President Lee Ducat, “Most people think you can only donate tissue or organs to science after death. NDRI wants more people to know that at the time of our lives when we are most vulnerable – when we are going into the OR or delivery room, we have the greatest power to make an impact on humanity.” Donation is



during liposuction are useful to scientists. Removed tumors provide important specimens to scientists developing therapies for a wide range of cancers. Samples from both cancerous and pre-cancerous moles removed during dermatological surgery are key to melanoma studies. Bone and cartilage collected during hip or knee replacement surgery can offer scientists further insights into how the body repairs itself. Diseased organs removed during transplant surgery are valuable to researchers, and would otherwise be discarded. Also, cord blood, umbilical cord, placenta and amniotic fluid can be donated at the birth of a child and are a rich, non-controversial source of stem cells for research into neurological diseases, heart disease, cancer, and more.

Why donate through NDRI?

For 27 years, NDRI has worked tirelessly to raise awareness among tissue and organ banks nationwide to increase the supply of human specimens to top scientists on the leading edge of discovery. Since the early 1980s, NDRI has served some 5,000 scientists by providing more than 200,000 human biomaterials, leading to more than 2,500 papers published in scholarly journals.

NDRI is the leading, non-profit organization providing human biomaterials for research that receives major funding from the federal government through NIH with core support from NCRRT, the National Center for Research Resources and additional funding from NEI, NIDDK, NIAID, NIAMS, NHLBI and the Office of Rare Diseases (ORD). NDRI employs the highest standard of care and stewardship of donated tissues and organs. NDRI provides human tissues to researchers at leading institutions across the country, including NIH, the U.S. Food & Drug Administration, and renowned medical centers including Harvard, Johns Hopkins, Mount Sinai Medical Center, Stanford, Wistar Institute and Thomas Jefferson University. NDRI is credited with designing the prototype systems for collecting human specimens for research which would have been discarded, and delivering them in a customized way to scientists.

Spreading the word

As biomedical research moves forward, propelled by the latest advances in genetics and associated technologies, the need is critical for more human tissue, which bridges the gap from animal studies to human clinical trials, and to explore research avenues that only human models make possible. Research donations from living donors from surgical procedures and the birth of babies can enrich the pool of resources available. NDRI is committed to making it happen. ■



Tissues from surgical procedures are needed.

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–Lee Ducat, President, NDRI

really simple, she adds. “A phone call to NDRI initiates the process, and NDRI does the rest. There is no cost involved to the donor, and the tissue is urgently needed.”

All types of tissues needed

The message behind the initiative is that tissue donation from surgery is a “win-win” for everyone. At stressful times when scheduling an operation to regain health or to recapture a youthful appearance, for example, or at happy times such as the birth of child, what is usually discarded in the operating room is, in fact, often the source of inspiration that can lead to new therapies and perhaps even cures.

Tissues are needed from common diseases such as diabetes and cancer as well as from patients with rare diseases and HIV. Tissues collected at surgery are particularly valuable. For example, from plastic surgery procedures, skin, bone, cartilage, and particularly the fat removed



Having a baby or a scheduled surgery and want to be a tissue donor? Call 877-221-NDRI (6374). We’ll make the arrangements. It’s that simple, and there is no cost to you or your family.

NDRH Honors Those Who Have Accelerated

Outstanding Science Award to Lou Philipson, M.D., Ph.D.

For His Work in Screening, Diagnosis and Treatment of Newly Discovered Neonatal Diabetes Subtypes

Expect a miracle, and it just might happen. For Lou Philipson, M.D., Ph.D., and colleagues at the University of Chicago, the successful screening and diagnosis of ten patients with a rare form of neonatal diabetes during the last nine months has been a transformational experience. All ten were originally diagnosed with type 1 diabetes in the first six months of life and were on insulin therapy for a number of years. “I never really thought I would have the opportunity in my lifetime to say to a child with diabetes, ‘you don’t have to take insulin anymore,’” Dr. Philipson says, but for Lilly Jaffe of Chicago, Lauren Moore of Orlando and a handful of others, the reality of those words has been nothing short of miraculous.

Neonatal diabetes

Permanent neonatal diabetes usually becomes evident in the first six months of life, and is the result of a single gene or “monogenic” mutation. Only about 1 in 1,000 cases of type 1 diabetes are diagnosed this early in life, and only half of those, 1 in 200,000 newborns, have potentially treatable mutations. The genes involved in monogenic neonatal diabetes are part of a larger group of diabetes genes; mutations in at least seven of which are known to cause diabetes.

The genetics team led by Professor Andrew Hattersley in England recently identified the activating mutations in a gene called KCNJ11, encoding the protein Kir6.2, as the most common cause of permanent neonatal diabetes. KCNJ11 is one of two critical genes that work together to form the potassium ion channel (the KATP channel) which plays a critical role in controlling insulin secretion from the beta cells in the pancreas. Over the last three years, Dr. Hattersley and colleagues published findings that showed high doses of a sulfonylurea drug (glyburide) could induce insulin secretion in patients with specific KCNJ11 mutations. This past August his group published an article in the *New England Journal of Medicine* showing that glyburide could restore close-to normal insulin secretion in patients with monogenic neonatal diabetes, allowing them to stop using insulin. In a separate study, researchers in France and Houston found that activating mutations in the second gene, ABCC8, which encodes the sulfonylurea receptor, SUR1, could also be treated successfully with a sulfonylurea drug, allowing patients with these mutations to stop insulin injections.

While these results are all exciting, Dr. Philipson points out that there are many questions raised. Among the more interesting findings is that



Lou Philipson, M.D., Ph.D., Professor of Medicine at the University of Chicago.

some of the mutations are severe and affect brain function, with resulting developmental delay, and, in some cases, seizures. Interestingly, some of these problems seem to improve with glyburide treatment, but not enough cases have been studied to be certain.

Due to the excellent diabetes registries in many countries in Europe, to date 160 patients have been identified with KCNJ11 mutations. However in the United States these studies have only just begun, and while there is no exact count available, it is estimated that fewer than 25 patients have been identified.

Screening for neonatal diabetes

When seven-year-old Lilly Jaffe was just one month old, she was diagnosed with type 1 diabetes. For years she was forced to endure the daily rigors of type 1 diabetes, not the least of which included countless blood glucose checks and insulin injections to keep on living. Her frightening night-time seizures caused by low glucose kept her parents awake and on edge. Eventually an insulin pump helped prevent further seizures but left the Jaffe’s wondering whether their little girl would ever be able to spend the night at a friend’s house or do many of the other things girls her age could do easily.

When Dr. Philipson became aware of Lilly’s case, he arranged for her to provide a saliva sample for DNA testing in the laboratory of one of his colleagues, Graeme Bell, Ph.D., Professor of Medicine and Human Genetics at the University of Chicago, and a member of



Lilly Jaffe (center) and her family.

erated Research from Discovery to Cure

Distinguished Service to Science Award to Gift of Life Donor Program

When Howard Nathan, President and CEO, stood to accept the “*Distinguished Service to Science Award*,” from NDRI on May 15, 2007, it wasn’t the first time that his organization has been honored in this way. NDRI and Gift of Life Donor Program, in Philadelphia, have nurtured a successful partnership for more than 27 years. The contribution of Gift of Life has been second to none in support of NDRI’s mission to increase the flow of human tissues and organs to scientists throughout our country.



Founded in 1974, Gift of Life was the very first Organ Procurement Organization (OPO) to work with NDRI. “Our association with NDRI dates back to its inception in 1980,” Nathan recalls. “As one of the largest OPOs in the United States, a main component of our mission has been the support of research.” To date, Gift of Life has recovered and sent thousands of organs for research which NDRI has placed in hands of researchers who need them. Today, it is the largest contributing OPO throughout NDRI’s national network. “Our team believes that offering a donor family the option of sending organs and tissues to research provides hope that their loved one’s gift can be used to find a cure or a new therapy. It is just the right thing to do,” Nathan adds. What is more, he says, the NDRI staff is professional and very attuned to customer service. One phone call is all that is needed to place tissue and someone from NDRI will always follow-up to let us know how the tissue was used.

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— Howard Nathan

NDRI works with all 57 OPOs around the country to place tissue and organs for research which cannot be used for transplantation. These are released to several hundred investigators at major medical centers who are looking for better ways to diagnose and treat common and rare diseases.

Gift of Life collaborates with NDRI to identify excluded donors with diseases that prevent them from being transplant donors such as HIV, or rare diseases, and some of the common diseases as well. “Gift of Life is privileged to be the link for those families who offer these gifts of their loved ones to help their fellow man,” says Nathan. ■

Gift of Life President and CEO Howard M. Nathan with Erin Brenner, a 5-year-old liver recipient.

Outstanding Spirit Award to “Do-Gooders”

Doing Good Feels Great! *“Do-Gooders” Raised Thousands for NDRI*

This group of cheery philanthropists from Philadelphia and suburbs are always up for a good cause and a good time. So far these “Do-Gooders” have raised \$5,500 and counting to help support NDRI’s mission to provide human cells, tissues and organs to scientists.

Gerry Sills of Bala Cynwyd, who co-founded the group with Sandra Blumberg, explains their motivation. “Through our work with the NDRI Society, we’ve learned how cuts in government funding could jeopardize the important work that NDRI does.” The NDRI Society was founded in NDRI’s 25th anniversary year to build a dynamic reserve fund to support special initiatives and pilot programs. The Society is committed to keeping human biomaterials flowing to the laboratories of the country’s top scientists who are doing groundbreaking disease research in fields that include diabetes, cancer, HIV, heart disease and neurological and rare diseases. “We wanted to do more than just write a check,” says Sills. “Each member has her own ideas and skills to contribute.”

Club outings are fun and profitable

The Do-Gooders have pooled their creative resources to develop a number of successful fund-raising opportunities from selling tickets to a show at the Prince Music Theater in Philadelphia to excursions to boutiques and spas where businesses donate a percentage of



Members of the Do-Gooders gathered on February 28, 2007 at a pre-show reception for “Stormy Weather” at the Prince Music Theater. Pictured from left to right are: Shirley Stein, Barbara Brown, Mary Ann Oaks, Gerry Sills, Event Chair Barbara Tiffany, and Irene Schrank, all from the Philadelphia area.

include a rummage auction at Freeman Galleries in September and possibly a “Day in Bucks County, Pennsylvania” or “A Day at the Beach.”

Generous spirit recognized

In appreciation of their efforts, the Do-Gooders Club will receive the “*Outstanding Spirit Award, 2007*” at the NDRI Society Trustee’s Dinner on May 15, 2007 at the Rittenhouse Hotel in Philadelphia. “We are thrilled and honored to be recognized in this way,” says Sills, who will accept the award on behalf of the Club. “As much as we are having fun, we all realize the work of the Do-Gooders is serious and we are committed to moving forward with new projects.” ■

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—Gerry Sills

their sales. Members “brown-bag” it to their monthly lunch or breakfast meetings and contribute the money they would have spent to Club coffers. “So far one of our most successful activities is our clothes sale on eBay,” Sills adds. “The rule is we can’t buy from each other.” Upcoming fundraisers

NDRI Develops New Pan-Cancer Tissue Microarray

Available to investigators in the coming weeks

NDRI is offering a powerful new tool for researchers studying the pathogenesis, biomarkers and potential underlying genetic causes of cancer. NDRI's Pan-cancer Tissue Microarray (TMA) allows researchers to analyze the expression of genes from many different types of cancer specimens all on a single slide. This new Pan-cancer Array comprises a total of 478 cancer cases grouped in four tumor survey blocks and also includes a normal survey block of 126 tissue samples. Cancers represented on this array include breast, ovarian, pancreas, colorectal, stomach, lung, thyroid, parathyroid, neuroendocrine, adrenal cortex, thymus, endometrial and cervical tumors, lymphoma, sarcoma, melanoma and other rare cancers.



Galen Hostetter, M.D., Associate Investigator, Integrated Cancer Genomics Division, and Director, Tissue Microarray Core, at TGen.

Galen Hostetter, M.D., Associate Investigator, Integrated Cancer Genomics Division, and Director, Tissue Microarray Core, at the Translational Genomics Research Institute (TGen), in Phoenix, Arizona, constructed the TMAs from NDRI's vast paraffin block collection of human tumors, using a process he says is both painstaking and precise to ensure the integrity of each sample incorporated. He agrees that NDRI's ability to collect a wide range of both normal and diseased tissues, numbering some 20,000 per year, along with its vast archive of over 800,000 specimens in paraffin blocks, offers a unique capability to provide researchers with TMAs – increasingly valuable tools.

“TMAs made from NDRI's paraffin block collection represent a highly cost-effective and standardized tool for investigators,” he says. TMAs can be used to analyze the expression of many genes from one type of specimen or single genes from many different specimens on a single slide, quickly and efficiently. Research scientists successfully utilize TMAs to rapidly localize DNA, RNA and protein markers, for immunohistochemical staining, *in situ* hybridization, and other methodologies. TMAs are used for validation of results from complementary deoxyribonucleic acid (cDNA) microarrays, expression profiling of tumors and tissues, as well as in epidemiology-based investigations.

Vast tissue archive a “gold mine” for research

NDRI's valuable collection of archival paraffin blocks and the ability to readily produce paraffin blocks from newly collected tissues affords a rich resource for current and future TMA construction. Both normal and diseased specimens have been embedded in paraffin from pathologist diagnosed recent cases as well as those extending back more than a decade. The archival tissue bank, which some researchers have said represents a “gold mine”, is a resource that utilizes actual clinical specimens for disease-specific

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and retrospectively selected populations. Researchers can access quantities and selections of paraffin blocks from NDRI, customized to fit their research protocols. Customized tissue microarrays can be prepared by NDRI upon request. A prostate cancer TMA has been available from this collection since 2005.

Scientific advisors oversee quality control

A committee of scientific experts oversees quality control and advises on TMA production at NDRI. Chairing the committee is Paul S. Meltzer, M.D., Ph.D., Senior Investigator and Chief, Cancer Genetics Branch, National Cancer Institute. Members include Dr. Hostetter, Dan Rohwer-Nutter, Ph.D., CEO, Beecher Instruments, Inc., David M. Bodine, Ph.D., Head, Hematopoiesis Section, National Human Genome Research Institute and Hal E. Broxmeyer, Ph.D., Scientific Director of the Walther Oncology Center, Indiana University School of Medicine. ■

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TMA



Standard TMA with four-quadrant design and strip of normal control tissues. The TMA cores are 0.6 mm in diameter, and each tissue spot has a unique identifying address for sample tracking for downstream analyses.

For more information about the new Pan-cancer TMA or to purchase TMAs including NDRI's Prostate Cancer TMA, call Rose Fantasia at 800-222-6374 (NDRI), ext. 255.



NDRI, the National Disease Research Interchange has human cancer tumors with normal adjacent tissue available for your research studies. Available are slides, paraffin blocks and a prostate cancer microarray. A pan-cancer array with nearly 500 clinically defined cases will be available in early spring.

For more information or to place orders call NDRI at 800-222-6374 or visit our website at www.ndriresource.org.



NDRI is a nationally recognized, non-profit organization, serving research scientists with a variety of human tissues, organs and derivatives.

Outstanding Science Award, 2007 to NIDDK

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NIDDK - the National Institute of Diabetes & Digestive & Kidney Diseases has remained committed to pursuing a broad scope of research on both debilitating and costly chronic diseases that include diabetes, other endocrine and metabolic diseases, liver, other digestive diseases, nutritional disorders, obesity, kidney and urologic diseases, and hematologic diseases. The Institute conducts and supports much of the clinical research on the diseases of internal medicine and related subspecialty fields as well as many basic science disciplines at its research facilities in Bethesda, MD, and Phoenix, AZ and at research institutions and medical centers throughout the United States. In addition, NIDDK also supports education programs to translate the results of research to health professionals, patients and the public. NIDDK is part of a "Multi-Institute Initiative" at NIH supporting NDRI, making it possible to provide increasing quantities of human cells, tissues and organs to scientists whose research projects are supported by NIDDK.

As NIDDK Director, Dr. Rodgers oversees an annual budget of \$1.8 billion and a staff of 650 scientists, physician-scientists, and administrators. He also serves as chief of NIDDK's Clinical and Molecular Hematology Branch, which he has headed since 1998. In accepting his appointment, Dr. Rodgers stated, "It is truly an honor to be given the opportunity to lead an organization with a mission as far-reaching and varied as the NIDDK." He added, "While NIDDK has a long and distinguished history of accomplishment as an Institute, we must look to the future to capitalize on the opportunities for disease prevention that new technologies and discoveries are giving us. The health problems we face as a nation are real and the results of research offer substantive promise for solving the difficult questions faced by millions of Americans every day and the health professionals who treat them."

Under his leadership, NIDDK will remain firmly committed to basic, translational, and clinical research; research training and career development; and the dissemination of health information to improve the lives of patients, their families, and those at risk for these diseases. He has pledged to maintain a vigorous investigator-initiated research portfolio, supporting pivotal clinical studies and trials. Dr. Rodgers will continue to work to preserve a stable

"As we plan for the future, we will continue to seek and value external advice from investigators, professional scientific organizations, patient advocates and the public. To this end, I look forward to working with members of the National Disease Research Interchange now and in the future."

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pool of talented new investigators and to foster exceptional research training and mentoring opportunities, while continuing efforts to ensure that the science-based knowledge gained from NIDDK-funded research is imparted to health care providers and the public for the direct benefit of patients and their families. ■

Dr. Rodgers' research interests

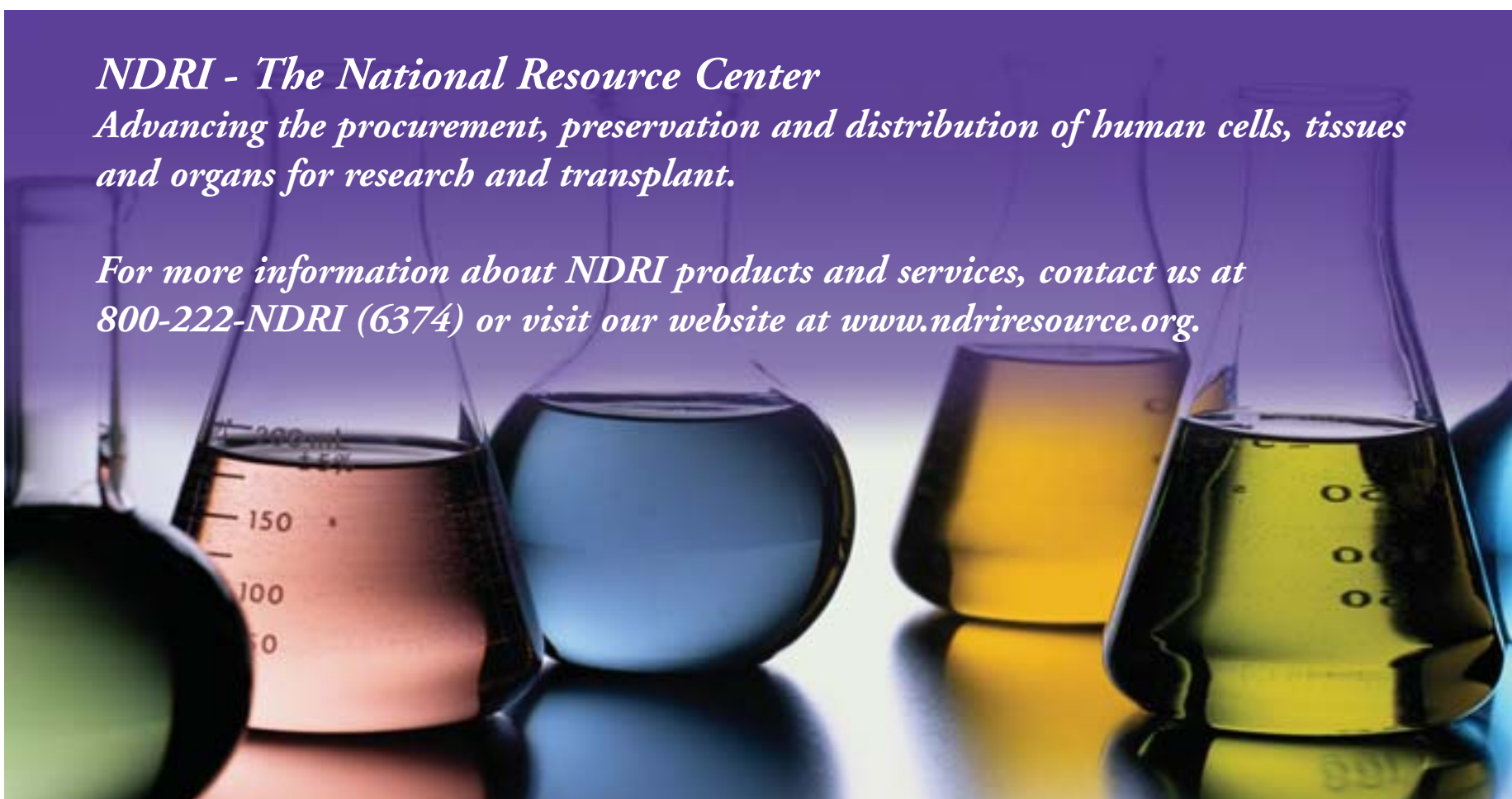
Dr. Rodgers was named Director of NIDDK on April 2, 2007, having served as Acting Director from March 2006 and as Deputy Director from January 2001. In announcing his appointment, NIH Director Elias A. Zerhouni, M.D., called Dr. Rodgers "an outstanding physician-scientist and molecular hematologist who has made singular contributions to the study of globin disorders and is internationally recognized for his contributions to the development of effective therapy for sickle cell anemia and other genetic diseases of hemoglobin. In addition to his research experience," Dr. Zerhouni added, "Dr. Rodgers is a dedicated and knowledgeable clinician and a first rate research administrator. He has all the qualities we search for in an Institute Director."

As a research investigator, Dr. Rodgers is widely recognized for his contributions to the development of the first effective — and now FDA approved — therapy for sickle cell anemia. He was a principal investigator in clinical trials to develop therapy for patients with sickle cell disease and also performed basic research that focused on understanding the molecular basis of how certain drugs induce gamma-globin gene expression. He was honored for his research with numerous awards including the 1998 Richard and Hinda Rosenthal Foundation Award, the 2000 Arthur S. Fleming Award, the Legacy of Leadership Award in 2002 and a Mastership from the American College of Physicians in 2005. He has been honored with many named lectureships at American medical centers and has published over 150 original research articles, reviews, and book chapters and has edited four books and monographs.

NDRI - The National Resource Center

Advancing the procurement, preservation and distribution of human cells, tissues and organs for research and transplant.

For more information about NDRI products and services, contact us at 800-222-NDRI (6374) or visit our website at www.ndriresource.org.



Outstanding Science Award to Lou Philipson, M.D., Ph.D.

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the team that is screening patients genetically for neonatal diabetes. Test results showed that instead of having the autoimmune-caused deficiency responsible for type 1 diabetes, Lilly had permanent neonatal diabetes caused by a mutation in gene KCNJ11. When Lilly's diagnosis was confirmed, Dr. Philipson arranged for her to enter treatment at the University of Chicago Clinical Research Center to gradually wean her off insulin treatment. "After just four days," he says, "Lilly was clearly making insulin and was off the pump a few days later. Within a week her blood sugar control was actually far better on the pills she was prescribed than on insulin." For her mother, Laurie Jaffe, each new day is miracle. "Lilly is doing wonderfully," she says. "Our daughter is proof that research is essential if we are going to cure the children of the world with diabetes and other chronic illnesses."

When obstetrician/gynecologist Melissa Moore, M.D., heard about Lilly, she was astounded and hopeful. The similarities were so close to her own four-year-old's journey with diabetes since her diagnosis at six months. "Lauren's condition was so brittle, we could never leave her alone," she recalls. "There were nights when my husband was away and I was on-call that I even had to take her with me to the hospital." Like Lilly's parents, Dr. Moore struggled daily to help her child survive the ups and downs of her mercurial disease. Under Dr. Philipson's guidance and in the care of her doctors in Orlando, Lauren, who was diagnosed with a different genetic mutation in KCNJ11, is thriving like Lilly, on oral sulfonylurea drugs.

Hope for other diabetics

Dr. Philipson, who has made the screening for neonatal diabetes and the resulting change in diagnosis and therapy a serious mission, says, "Part of the miracle is that you can give these patients a drug a couple of times a

day and they will have diabetes similar to very well-controlled type 2 diabetes instead of the very difficult to control type 1 that required them to have multiple injections of insulin every day. This supports the idea," he adds, "that among those with autoimmune type 1 diabetes, some beta cell function can remain for many years, perhaps one day to be rescued by new combinations of therapies."

Lilly and Lauren were two of the very first cases of monogenic neonatal diabetes treated in the United States, and so far there are about 160 in the world who have been transferred from insulin to pills. "It is critical," says Dr. Philipson, "that we understand the rarity of this disease. We anticipate seeing no more than 30 or so NEW cases a year, and we have estimated that there are between 400 and 2,000 such cases in the United States born over the last 40 or so years." He is planning an Internet registry to document these patients for further study. A family registry could help shed light on some of the neurological problems and developmental delays that may be present in some of the children diagnosed with the monogenic diabetes subtypes.

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There are many questions to be answered, he adds, and it is likely that further research will hold important implications for those with other forms of diabetes as well. For the Jaffes and the Moores, Dr. Philipson has been an inspiration to them to continue their efforts to push for cures and increased funding for this area of research. Both families speak fondly of the man who helped to change their lives. "Dr. Philipson deserves to be recognized and honored for his work and his dedication," Dr. Moore says. As Laurie Jaffe so succinctly put it, "Dr. Philipson is man of great intellect with a very big heart." ■

If you or someone you love was diagnosed with diabetes in the first year of life, you may want to consider screening for monogenic diabetes. For more information, contact NDRI at 800-222-6374.



National Disease Research Interchange
8 Penn Center, Suite 800
1628 JFK Boulevard
Philadelphia, PA 19103

800-222-NDRI / 215-557-7361
www.ndriresource.org

Editor and Writer:
Lois D. Torgerson

Editorial Committee Chairman:
Lee Ducat, President NDRI

Editorial Committee:
John Lonsdale, Ph.D., Sally Strickler,
Rose Fantasia

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