THE IMPACT OF GENE THERAPY ON LYMPHOMA, LEUKEMIA AND PROSTATE CANCER

Topic of Recent Alliance for Cancer Gene Therapy Presentation

(GREENWICH, Conn., May 4, 2009) – A five-time All American triathlete, a judge, a doctor, a Rabbi, a philanthropist, and business leaders are not typically the faces of cancer one thinks of. However, cancer is indiscriminate and affects people of all ages, professions, and walks of life. These are among the people who filled the room recently at the Bruce Museum in Greenwich, Conn., to hear renowned cancer researcher Dr. Michel Sadelain of Memorial Sloan-Kettering Cancer Center speak about new advances in treating lymphoma, leukemia and prostate cancer. Members of the audience, many whose lives have been touched by cancer, either personally or through loved ones, came to hear firsthand from a leading scientist at the forefront of working toward new treatments for cancer. The presentation was sponsored by the Alliance for Cancer Gene Therapy (ACGT), founded by Greenwich residents Barbara and Edward Netter.

The presenter, Dr. Michel Sadelain, is founding director of the Center for Cell Engineering and head of the Gene Transfer and Gene Expression Laboratory at Memorial Sloan-Kettering Cancer Center. Dr. Sadelain is also the recipient of a 2004 ACGT Investigator Grant for Gene Therapy for his work with Lymphoma and Leukemia. His research focuses on novel approaches to enhance T cell stimulation and function. T cell engineering is a promising approach for establishing potent and durable immunity against cancer. Dr. Sadelain’s research is currently in clinical trials and uses engineered T cells to create an immune response against cancer cells. Seven other major medical centers are also initiating clinical trials on similar work in the next year.

The challenge has been to modify the patient’s T cells to persist and function in the recipient. Drug therapy only lasts for a certain amount of time after it is put into the body, and radiation and chemotherapy damage good cells as well as the bad. The goal of Dr. Sadelain’s research is to create genetically engineered T cells that specifically recognize the tumor and function as long as there is residual tumor to eradicate.

Barbara Netter, event chairman, noted, “Dr. Sadelain’s research is exciting because, he’s isn’t just looking for a treatment, but a process of engineering cells that works in the body, wiping out cancer cells, leaving the rest of the body healthy.”

Dr. Sadelain explained the process to the audience by giving the “nuts and bolts” of the cell engineering process, explaining how the engineered cells enhance the immune system and specifically target cancer cells. The T cells are taken directly from the patient’s blood. The T
cells are genetically engineered to extend their survival in the body and overcome the resistance opposed by the tumor cells and surrounding cells that shield the tumor. Dr. Sadelain and his team insert a receptor into the gene that specifically targets the cancer cells.

Memorial Sloan-Kettering is one of a handful of laboratories in the U.S. that have the capability to manufacture T cells with specific receptors. The difference between Dr. Sadelain’s work with gene therapy and other conventional treatments is that he works with live cells that have the potential to amplify and persist, unlike drugs which require repeated and sometimes lifelong administration. The goal is to have the T cells live on and continue to fight cancer cells in the body.

In experiments with lab mice, some have had a 60-to-80 percent reduction in cancer in their body after being treated with engineered T cells.

Clinical studies have begun at Memorial Sloan-Kettering in patients with chronic lymphocytic leukemia and will soon extend to those with acute leukemia and prostate cancer. Currently, there are several human clinical trials on treating lymphoma and leukemia, based on Dr. Sadelain’s research with gene therapy, and can be found through ACGT’s website at www.acgtfoundation.org.

Gene therapy or immune engineering is an emerging science. Dr. Sadelain’s wide range and deep understanding of the subject matter left the audience with a sense of where cancer research is headed… a more targeted and less invasive approach to cancer treatment. After Dr. Sadelain’s presentation, many in the audience crowded around him to talk to him personally about his work and its implications for treating cancer. And for them, the future looked a lot brighter.

*Dr. Michel Sadelain is the founding director of the Center for Cell Engineering and Head of the Gene Transfer and Gene Expression Laboratory at Memorial Sloan-Kettering Cancer Center in New York, where he also currently holds the Stephen and Barbara Friedman Chair. Dr. Sadelain received his medical degree from the University of Paris and his PhD from the University of Alberta. After his residency at the Centre Hospitalier Universitaire Saint-Antoine in Paris, he completed his fellowship at the Massachusetts Institute of Technology, before joining Memorial Sloan-Kettering Cancer Center. Dr. Sadelain previously served on the Board of Directors of the American Society of Gene Therapy (2004-2007) and continues to serve on the editorial boards of Molecular Therapy, Human Gene Therapy and Gene Therapy. He is a member of the prestigious 17 member ACGT Scientific Advisory Council.*

**The Alliance for Cancer Gene Therapy** (ACGT) supports the extraordinary potential offered by cell and gene-based therapies to accelerate effective and safe treatment of all types of cancer. Founded in 2001 by Greenwich residents Barbara and Edward Netter, it is the only national non-profit organization committed exclusively to cancer gene therapy research and is recipient of the BBB Accredited Charity Seal. One hundred percent (100%) of all funds raised by ACGT goes directly to support medical research.

Since its inception in 2001, ACGT has issued close to $20 million in research grants to 31 ACGT Research Fellows representing such leading research institutions as Harvard Medical School, Johns Hopkins University School of Medicine, Mayo Clinic, St. Jude’s Children’s Hospital, Duke University, The Salk Institute, University of Pennsylvania, Memorial Sloan-Kettering, University of Pittsburgh’s School of Medicine, and the University of Chicago. Identified through a rigorous selection procedure, the scientists and their research projects address lymphoma/leukemia, prostate, breast, lung, brain and ovarian cancer.

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