American Cancer Society Awards New Research and Training Grants

One of Two Grant Cycles for 2012 Awards $51,965,000 to Investigators at 93 institutions nationwide

ATLANTA—April 17, 2012– The American Cancer Society, the largest non-government, not-for-profit funding source of cancer research in the United States, has awarded 135 national research and training grants totaling $51,965,000 to investigators at 93 institutions nationwide in one of two grants cycles for 2012. Of the grants, 113 are new and 22 are renewals of previous grants. All the grants go into effect July 1, 2012.

For more than 60 years, the American Cancer Society has funded research and training of health professionals to investigate the causes, prevention, and early detection of cancer, as well as new treatments, cancer survivorship, and end of life support for patients and their families. Since its founding in 1946, the American Cancer Society's extramural research grants program has devoted more than $3.5 billion to cancer research and has funded 46 researchers who have gone on to win the Nobel Prize.

Below are highlights of new grants.

- **Karen Freund, MD, MPH**, of **Tufts University School of Medicine**, has received a Clinical Research Professor award for work to understand the impact of the health care system on disparities in cancer outcomes for vulnerable populations; to explore the effect of patient navigator programs on reducing barriers to care in vulnerable populations; and to understand the role of health insurance reform in reducing health disparities.
- **Henning Willers, MD** at **Massachusetts General Hospital** is examining the effects of combining targeted chemotherapy against the EGF receptor with radiation therapy to treat non-small cell lung cancer (NSCLC), which kills more men than prostate cancer and more women than breast cancer in the United States every year. Dr. Willers will test the idea that chemotherapy will sensitize the tumor cells to radiation treatment.
- **Andrew L. Feldman, MD** at the **Mayo Clinic Cancer Cente**r, is studying peripheral T-cell lymphoma (PTCL), an aggressive cancer of the immune system that is fatal in two-thirds of patients with current therapies. Dr. Feldman's long-term goal is to improve survival in PTCL patients by developing new treatment strategies. The current studies are focused on a protein called interferon regulatory factor-4 (IRF4), which is expressed frequently in PTCL and promotes cancer growth. Dr. Feldman and his colleagues wish to discover how and why the cancer cells make IRF4 and then develop strategies for inhibiting its production. This will result in an inhibition of peripheral T-cell lymphoma growth and an effective treatment of this form of cancer.
- **Kristen Nieman, PhD, University of Chicago,** working with **Ernst Lengyel, MD, PhD**, is studying the way in which ovarian cancer cells metastasize. She has found that a specific protein, fatty acid binding protein 4 (FABP4) is critical for ovarian cancer cell metastasis and will pursue understanding this protein's role. This knowledge could lead to the development of new therapeutic targets and may lead to improved treatments not only for ovarian cancer but other cancers including breast, colon, and gastric cancers.
- **Jennifer Koblinski, PhD, Northwestern University** is focused on the mechanism by which breast cancer cells metastasize to the brain. There are few treatment options for these patients and Dr Koblinski is testing the idea that certain breast cancer cells express the proteins syndecan 1 and 4 (Sdc1, Sdc4) on their surfaces and this promotes homing of those cells to the brain. By establishing the role(s) of these proteins in brain metastasis she hopes to provide better biomarkers for these deadly cells and potentially provide new therapeutic targets to prevent breast cancer from metastasizing to the brain.
- **Benjamin Cuiffo, PhD at the Beth Israel Deaconess Medical Center** working with **Antoine Karnoub, PhD**, is interested in the relationship between tumor cells and the surrounding supporting cells called stroma. His project is to understand what signals stromal cells to migrate toward tumors. Not only will this work provide a better knowledge of the tumor environment, but Dr Cuiffo plans to use this information to engineer stromal cells to be "smart bombs", targeting therapeutics specifically to the tumors.
- **Dr. Keigo Machida, at the University of Southern California** will further investigate his finding that obesity and alcohol induce the TLR4 receptor in cooperation with hepatitis C viral proteins, leading to the induction of a liver cancer stem cell, and the initiation of liver cancer.

- **Dr. Lance Miller at Wake Forest University Medical Center** is examining improved ways to predict which patients diagnosed with triple-negative breast cancer are likely to respond best to the available treatment options. Through interrogation of expression patterns from patient tissues, Dr. Miller has devised a method using 3 gene-pair ratios to predict more or less favorable outcomes for patients. Those patients who are likely to do worse under standard of care might be considered for more aggressive therapy.
- **Dr. Kenneth Olive at Columbia University Medical Center** is focused on testing PARP (poly ADP ribose polymerase) inhibitors in pancreatic cancer, since data has suggested that a significant fraction of these cancers carry defects in their DNA repair machinery. Such inherent defects combined with in combination with DNA damaging chemotherapies represents and exciting possibility for making impact in one of the most challenging forms of cancer.
- **Dr. David Wald at Case Western Reserve University** is focused on the preclinical evaluation of a GSK3 serine/threonine kinase inhibitor in combination with current retinoid therapy (ATRA) in the treatment of acute myeloid leukemia (AML), an often lethal cancer in both children and adults. Inhibition of GSK3 appears to sensitize AML cells to the therapeutic effects of ATRA rending the current treatment much more effective. With clinical translation, this could be a major therapeutic advance for cancer patients who currently face discouraging outcomes.
- **Sunil Sudarshan, MD at the University of Texas Health Science Center, San Antonio** is investigating tumor suppressor functions of a tumor suppressor gene, , which codes for the protein fumarate hydratase (FH), an enzyme involved in major metabolic pathway that is present throughout the human body. Loss of FH represents one of the clearest examples of a link between metabolism and tumor formation - an emerging paradigm in cancer biology. This proposal aims to identify how loss of this enzyme leads to cancer formation.
- **Justin Bekelman, MD of the University of Pennsylvania** aims to understand which prostate cancer patients benefit from external beam radiotherapy and under what conditions. These findings will contribute to the body of evidence to inform men who face prostate cancer treatment decisions.
- **Michael Gough, PhD of Providence Portland Medical Center** hopes to redirect the immune processes to improve the outcome of conventional therapy in patients receiving treatment with surgery, radiation and/or chemotherapy. Dr. Gough hopes to improve understanding of cancer-related inflammatory responses, and directly integrate immunotherapy into combination therapies for cancer.
- **Dr. Jeffrey Peppercorn at Duke University Medical Center** will study the impact of health care benefits structure on the use of screening mammography by women aged 45-60 living in the rural United States. By analyzing data from an insurance provider that eliminated copayments for mammograms and surveys of women eligible for mammograms, he hopes to gain a comprehensive picture of screening behaviors and barriers to screening. The results of this study could ultimately affect health insurance policy on a national scale and improve screening programs to prevent deaths from breast cancer.
- **Laura Gilchrist, PhD, of Children's Hospitals and Clinics of Minnesota**, will study children being treated with vincristine chemotherapy for leukemia, lymphoma or Wilms' tumor to learn how to prevent long term neuropathy. By following pediatric patients during treatment and for two years after, she expects to identify which neurological signs and symptoms are indicative of long term side effects. This information can then be used by pediatric oncologists in making treatment decisions about the use of vincristine.
- **Linda H. Eaton, MN, at the University of Washington** will conduct her doctoral degree research on nurses' use of evidence-based cancer-related pain management in the hospital. She will survey oncology nurses and cancer patients to understand the strategies that influence nurses to learn and use best practices in cancer pain management and to ultimately improve patient quality of life.
- **Saima Siddiqui, MD, at the University of Texas Health Science Center San Antonio** receives a career development award to support her research focusing on increasing collaboration between primary care and specialists to help improve the care of cancer patients upon diagnosis. She will interview patients, family members, generalist physicians, oncologists and oncology nurses to identify barriers to and facilitators of the use of a shared care model of care.
- **Melissa A. Lundquist, MSW, at University of Minnesota**, will explore the experience of men diagnosed with advanced cancer who are the fathers of young children. Her project will increase our limited knowledge of the impact on the family when the cancer patient is the father and guide the development of interventions to prevent psychosocial problems that may occur.

The American Cancer Society's research and training program emphasizes investigator-initiated, peer-reviewed

proposals, and has supported groundbreaking research that has led to critical discoveries leading to a better understanding of cancer and cancer treatment. Grant applications are ranked on the basis of merit by one of several discipline-specific Peer Review Committees, each of which includes 12 to 25 scientific advisors or expert reviewers. The Council for Extramural Grants, a committee of senior scientists, recommends funding based on the relative merit of the applications, the amount of available funds, and the Society's objectives. No member of the American Cancer Society's Board of Directors or National Assembly may serve on a Peer Review Committee or as a voting member on the Council for Extramural Grants.

The Council for Extramural Grants also approved 121 research grant applications that could not be funded due to budgetary constraints. These “pay-if” grants represent work that passed the Society’s multi-disciplinary review process but go beyond the Society’s current funding resources, and which will be funded if additional monies become available. These grants serve as an important reminder that there continues to be promising research that cannot with current resources. For more information about the American Cancer Society Research Program, please visit http://www.cancer.org/research.

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