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Stand Up To Cancer and the Dutch Cancer Society Announce New Dream Team Grant Recipients

6 Million-Euro Grant Over Four Years Will Fund Research Focusing on Tumor Organoids

PHILADELPHIA — Stand Up To Cancer (SU2C) and the Dutch Cancer Society (KWF Kankerbestrijding), along with the American Association for Cancer Research (AACR), SU2C's scientific partner, announce the formation of a Dream Team dedicated to developing new tools and technologies for preclinical drug testing and analysis.

Hans Clevers, M.D., Ph.D., will lead the Dream Team. Johannes Bos, Ph.D., is the co-leader of the project, which is titled "Tumor Organoids: A New Preclinical Model for Drug Sensitivity Analysis."

The Sta Op Tegen Kanker (Stand Up To Cancer) Dream Team Translational Cancer Research Grant will provide 6 million euros (U.S. $8.1 million, at the current conversion rate) in funding over four years for this innovative project that will establish a novel, genetically diverse "living biobank" of patients' tumor samples that are maintained and grown in a laboratory, using groundbreaking technology developed by this Dream Team. Called "tumor organoids," these growing tumors provide an unprecedented opportunity to investigate the DNA changes that have occurred in these tumors and the consequences of those changes. Importantly, these tumor organoids also will allow researchers to conduct studies of sensitivity and resistance to a large number of anticancer drugs in a laboratory, laying the groundwork for more sophisticated clinical trials that will test treatment regimens specific to the genetic profiles of individual patients and their tumors.

"Currently, the treatments that most patients with cancer receive are still chosen based on the tissue or organ in which their cancer originated and on features of their cancer that are visible to pathologists through the microscope," said Clevers, who is a professor at the Hubrecht Institute in Utrecht, the Netherlands, and president of the Royal Netherlands Academy of Arts and Sciences. "The recent strides that have been made in DNA sequencing technology are facilitating the development of newer therapies that target specific genetic and molecular changes driving a cancer. However, this process is hampered by a lack of good tools for screening the drug sensitivity of cancers with specific genetic mutations. This Dream Team brings together leaders in a variety of fields of cancer research, and it is our goal to use a recently developed technology that allows tumors to be grown in the laboratory to develop a large 'living biobank' for colon, pancreatic, and prostate cancers. We expect to be able to use this biobank to identify new drugs and drug combinations for evaluation in clinical trials."

Researchers on this Dream Team represent four institutions: the Hubrecht Institute, the University Medical Center Utrecht, the Netherlands Cancer Institute, and the Wellcome Trust Sanger Institute.

"This Dream Team unites researchers across Europe in a concerted effort to use a groundbreaking new technology to rapidly analyze novel treatment modalities," said Bos, who is head of the Department of Molecular Cancer Research and chairperson of the Division of Biomedical Genetics of the University Medical Center Utrecht. "We are focusing our initial efforts on some of the world's most prevalent cancers: colon, pancreatic, and prostate cancers. If, as we expect, the approach leads to new treatment options for these diseases, we can expand the 'living biobank' to include other tumor types."

"We are very excited to collaborate with the Dutch Cancer Society to continue expanding Stand Up To Cancer's Dream Team model of funding research internationally," said Sung Poblete, Ph.D., R.N., president and chief executive officer of SU2C. "Colorectal, prostate, and pancreatic cancers account for about 15 percent of cancer deaths worldwide and 20 percent of cancer deaths in the United States alone. The new Sta Op Tegen Kanker Dream Team is well poised to identify novel treatments that will lead to higher quality and longer lives for countless patients diagnosed each year with these deadly cancers."

"It is an innovative step for the Dutch Cancer Society to enhance the collaboration of the most talented and promising researchers across institutes globally, by funding this Sta Op Tegen Kanker Dream Team that will solve key challenges in cancer and have a positive impact on patients in the near future," commented Michel Rudolphie, the Dutch Cancer Society's managing director.

Sta Op Tegen Kanker Dream Team Translational Cancer Research Project

Cancer is caused by changes in the genetic material, or DNA, of normal cells. These changes accumulate over time, first turning normal cells into precancerous cells and then into cancer cells. Recent technological advances have made it possible to determine all the DNA changes that have occurred in an established, malignant tumor.

The promise of precision medicine lies in the ability of researchers to devise treatment approaches that are specific to the genetic profile of individual patients and their tumors. However, predicting which drug, or drug combinations, will be the most effective based on the genetic makeup of a tumor remains a challenge. This is largely because for most DNA changes, it is not known how they contribute to the cancer process or how they can be targeted by drugs. Therefore, there is an urgent need for new tools and technologies to investigate the consequence of all these DNA changes.

This Dream Team has developed a groundbreaking technology that allows tumor samples isolated from patients to be maintained and grown in a laboratory setting. These growing tumors, which are called "tumor organoids," provide an unprecedented opportunity to combine DNA sequence analyses with functional studies of tumors from individual patients. Importantly, these

tumor organoids will allow studies of sensitivity and resistance to a large number of anticancer drugs in the lab.

The aim of the Sta Op Tegen Kanker Dream Team led by Hans Clevers, M.D., Ph.D., and Johannes Bos, Ph.D., is twofold. First, the Dream Team will establish a novel, genetically diverse 'living biobank' of tumor organoids to test new cancer drugs as a first step toward tailored clinical trials. The team will focus on patients with pancreatic, prostate, or colon cancer. They will develop organoids of normal and tumor samples from 80 patients with each cancer type. After having determined the DNA sequence of each of these organoids, the researchers will test their sensitivity to 100 different drugs. Armed with this knowledge, the Dream Team will be able to classify tumors based on the drug sensitivity of tumor organoids and devise rules to match specific treatments with defined DNA changes in tumors. The team will then use this knowledge to perform additional preclinical studies of novel therapeutic strategies, including drug combinations.

By performing more thorough preclinical studies facilitated by this new technology, the Dream Team hopes to design novel, more sophisticated clinical trials that will test treatment regimens tailored to a patient's tumor. If successful, this Dream Team project has the potential to provide a true paradigm shift in our current approach to drug development, clinical trial design, and therapy.

Dream Team Selected Through Unique, Rigorous Process

The proposals for the Sta Op Tegen Kanker International Translational Research Grant project were reviewed by a SU2C-KWF Joint Scientific Advisory Committee (JSAC) consisting of Arnold J. Levine, Ph.D.; Emile E. Voest, M.D., Ph.D.; Daniel H. Haber, M.D., Ph.D.; and Anton Berns, Ph.D.

Each proposal submitted for consideration was reviewed by at least three independent reviewers, experts in the field of the proposal. Based on these reviews, the JSAC invited three finalist teams to present the plans for their research and respond to questions about their projects—a level of interaction between applicants and reviewers that is unique in a scientific review process. Following these interviews, the JSAC recommended funding the team led by Clevers and Bos.

The AACR is responsible for administering the grant and provides ongoing scientific oversight to ensure that progress is being made. Since the launch of Stand Up To Cancer, the AACR has played an integral role as SU2C's scientific partner by providing scientific leadership, expert peer review, and grants administration.

Dream Team Principals and Advocate Members

The "Organoids" Dream Team consists of a multidisciplinary group of experts—laboratory and clinical researchers, young investigators, and senior scientists who have not worked together in the past, as well as patient advocates. In addition to Clevers and Bos, team members are:

Principals:
Lodewyk F. Wessels, Ph.D., Het Netherlands Kanker Instituut, the Netherlands
Michael R. Stratton, F.R.S., F.Med.Sci., F.R.C.Path., Wellcome Trust Sanger Institute, United Kingdom

Including today's announcement, SU2C has now awarded grants to 11 Dream Teams and one Sta Op Tegen Kanker International Translational Cancer Research Grant. Twenty-six Innovative Research Grants have been awarded to individual young investigators. Together, these recipients comprise more than 600 scientists from 101 institutions.

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About Stand Up To Cancer
Stand Up To Cancer (SU2C) raises funds to accelerate the pace of research to get new therapies to patients quickly and save lives now. SU2C, a program of the Entertainment Industry Foundation (EIF), a 501(c)(3) charitable organization, was established in 2008 by film and media leaders who utilize the industry's resources to engage the public in supporting a new, collaborative model of cancer research, and to increase awareness about progress being made in the fight against the disease. As SU2C's scientific partner, the American Association for Cancer Research (AACR) and a Scientific Advisory Committee led by Nobel Laureate Phillip A. Sharp, Ph.D., conduct rigorous, competitive review processes to identify the best research proposals to recommend for funding, oversee grants administration, and provide expert review of research progress.

Current members of the SU2C Council of Founders and Advisors (CFA) include Talk Show Host, Journalist and well-known Cancer Advocate Katie Couric; Sherry Lansing, Chairperson of the Entertainment Industry Foundation's Board of Directors and Founder of the Sherry Lansing Foundation; EIF President and CEO Lisa Paulsen; EIF Senior Vice President Kathleen Lobb; Rusty Robertson and Sue Schwartz of the Robertson Schwartz Agency; Pamela Oas Williams, President of Laura Ziskin Productions and Executive Producer of Stand Up To Cancer's In-house Production Team, and Nonprofit Executive Ellen Ziffren. All current members of the CFA were co-producers of the 2012 televised special. The late co-founder Laura Ziskin executive produced both the Sept. 5, 2008, and Sept. 10, 2010, broadcasts. SU2C was formally launched on May 27, 2008. Sung Poblete, Ph.D., R.N., has served as SU2C's president and CEO since 2011.

About the Dutch Cancer Society
The Dutch Cancer Society is a nation-wide organization for cancer-related work in the Netherlands. We spent approximately 80 percent of our netto budget to finance cancer research; 20 percent is spent to public awareness and information, prevention and patient support programmed. The DCS' headquarter is located in Amsterdam; our professional staff amount to 160 persons. Over 100,000 volunteers support the Dutch Cancer Society whether it comes to local or nation-wide fundraising, scientific or policy advise in several councils and committees. We could rely on nearly 1,600 local committees that organize our annual door-to-door knocking

campaign to raise funds for the fight against cancer (annual revenue around €8 million). The Dutch Cancer Society is supported by almost one million donors.

The Dutch Cancer Society has been leading the fight against cancer ever since it was founded in 1949. Our goal is less cancer, more cure, and a better quality of life for cancer patients.

About the American Association for Cancer Research

Founded in 1907, the American Association for Cancer Research (AACR) is the world's oldest and largest professional organization dedicated to advancing cancer research and its mission to prevent and cure cancer. AACR membership includes more than 34,000 laboratory, translational, and clinical researchers; population scientists; other health care professionals; and cancer advocates residing in more than 90 countries. The AACR marshals the full spectrum of expertise of the cancer community to accelerate progress in the prevention, biology, diagnosis, and treatment of cancer by annually convening more than 20 conferences and educational workshops, the largest of which is the AACR Annual Meeting with more than 18,000 attendees. In addition, the AACR publishes eight peer-reviewed scientific journals and a magazine for cancer survivors, patients, and their caregivers. The AACR funds meritorious research directly as well as in cooperation with numerous cancer organizations. As the scientific partner of Stand Up To Cancer, the AACR provides expert peer review, grants administration, and scientific oversight of team science and individual grants in cancer research that have the potential for near-term patient benefit. The AACR actively communicates with legislators and policymakers about the value of cancer research and related biomedical science in saving lives from cancer. For more information about the AACR, visit www.AACR.org. Follow the AACR on Twitter: @AACR. Follow the AACR on Facebook: http://www.facebook.com/aacr.org.

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