Two Nobel Prize Winners Received American Cancer Society Funding

2011 Awards Bring Number of Society Funded Laureates to 46

ATLANTA – October 3, 2011—Two of the three scientists receiving the 2011 Nobel Prize in Medicine or Physiology are former American Cancer Society research grantees, bringing the number of Nobel Laureates among the Society's funded researchers to 46.

Dr. Bruce A Beutler, professor of genetics and immunology at The Scripps Research Institute in San Diego, California was awarded a two-year project grant in January 1992 for $120,000 to study TNF synthesis in cancer. Dr. Ralph M. Steinman of Rockefeller University was awarded a one-year Research Opportunity Grant in 1999 for $75,000 to study dendritic cells and mediated immunization. Dr. Steinman died from pancreatic cancer on Sept. 30, just three days before the Nobel Committee's announcement.

Dr. Beutler was awarded along with Jules Hoffmann, who headed a laboratory in Strasbourg, France, for their discoveries concerning the activation of innate immunity. In 1998, six years after receiving his American Cancer Society grant, Dr. Beutler and his colleagues helped discover receptor proteins that can recognize bacteria and other microorganisms as they enter the body, and activate the first line of defense in the immune system, known as innate immunity. The discoveries of Hoffmann and Beutler triggered extensive research in innate immunity, which has enabled the development of improved vaccines against infectious diseases. In the long term their findings could yield better treatments for cancer, rheumatoid arthritis, type 1 diabetes, multiple sclerosis, and chronic inflammatory diseases. In fact, there are now many agents being studied for use in cancer therapy because of their stimulation of immune cells via these receptors.

Dr. Steinman was recognized for work in the 1970s, when he discovered a new cell type that he called the dendritic cell, which he thought could be important in the immune system. His research, which was initially met with skepticism, showed that the actions of dendritic cells resulted in specific responses of T cells, a cell type that has a key role in adaptive immunity and develops an immunologic memory against many different substances. In 2010, the FDA approved the first therapeutic vaccine for prostate cancer, Provenge, a vaccine that is based upon the principles of immunity developed by the study of dendritic cells.

It is also now apparent that there is an important regulation of anti-cancer immune responses that involves pathways connecting the receptors and responses studies by Dr. Beutler and the dendritic cells studied by Dr. Steinman. Studies initiated on these seemingly disparate aspects of the immune system have converged to provide new and exciting possibilities for fighting cancer.

"There is perhaps no greater indication of the importance and the vitality of the American Cancer Society's research grants program than the number of former grantees who have gone on to win the Nobel Prize," said Edward E. Partridge, M.D., national volunteer president of the American Cancer Society. "We are hopeful that among the 933 researchers currently receiving American Cancer Society funding across the nation are other early career scientists whose breakthrough ideas will one day be recognized with this high honor. This is what drives us every day and moves us closer to a world with more birthdays."