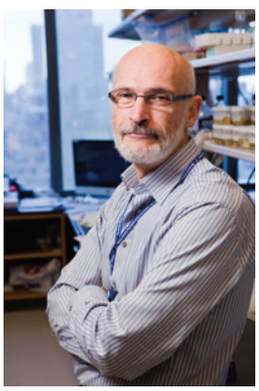
Cancer Immunology Research

The 2015 William B. Coley Awards

Since 1975, the Cancer Research Institute (CRI) has awarded annual William B. Coley Awards for Research in Basic and Tumor Immunology, which honor those immunologists and cancer biologists who have made highly significant contributions to our understanding of the underlying mechanisms governing the interactions of the cancer process with the immune system, and the application of that understanding to the development of new immunotherapies to thwart cancer.

The recipients of the 2015 Coley awards are Alexander (Sasha) Rudensky, PhD, from Memorial Sloan Kettering Cancer Center in New York, NY, and Glenn Dranoff, MD, from Novartis Institutes for BioMedical Research, Cambridge, MA. The awards were bestowed by the CRI in September 2015 at the Inaugural International Cancer Immunotherapy Conference in New York City, a meeting sponsored jointly by the CRI, the Association for Cancer Immunotherapy (CIMT), the European Academy of Tumor Immunology (EATI), and the American Association for Cancer Research (AACR).



Alexander Rudensky

The William B. Coley Award for Distinguished Research in Basic Immunology was given to Dr. Rudensky for his fundamental investigations into the regulation of the immune response, particularly that mediated by a distinct subset of CD4 T cells. Although his group's contributions to our understanding of the molecular and cellular basis of T-cell regulation are many, the Coley award specifically acknowledges his "pioneering contributions to our understanding of regulatory T cells (Treg)." Dr. Rudensky's group found that Tregs are critical for maintaining immune system homeostasis and for keeping an ongoing immune response under control. The Rudensky lab has made crucial observations into Treg differentiation, particularly that the genetic controller for Tregs is the transcription factor Foxp3. This discovery was key to gaining an understanding of the development and maintenance of these cells and opened up a field of research that has had ramifications for almost all immune responses, from fighting infections, to rethinking autoimmune disease, to crippling cancer. Knowledge of the functional properties of Tregs has made them an enticing target for clinical research. Their numbers and strength could be boosted in an autoimmune disease, in which too few of these cells may be present to dampen errant immune attacks on self-proteins and structures. In contrast, reducing Treg numbers, by targeting them for deletion or inactivation, is an approach being investigated to promote anticancer responses, where Tregs are known to play a critical role in blocking antitumor activity. Many insights have come from investigations—both those delving into the basic biology and those manipulating Tregs for clinical benefit—that are based on the use of key genetically modified mice and the mechanistic insights into T-cell regulation that have come from the Rudensky lab over the years. Dr. Rudensky began his career at the Gabrichevsky Research Institute in Moscow, and then worked with Dr. Charlie Janeway at Yale before accepting a position at the University of Washington, Seattle, where he spent 16 years. In 2009 he moved to Memorial Sloan Kettering Cancer Center in Manhattan, where in 2012 he became Chair of the Immunology Program.

Glenn Dranoff

The William B. Coley Award for Distinguished Research in Tumor Immunology was given to Dr. Dranoff for his foundational contributions to the development of efficacious cancer vaccines. His group initially studied tumor cell–based cancer vaccines in murine models. One of his crucial findings was that the addition of the cytokine GM-CSF could dramatically change the immunogenicity and efficacy of cell-based cancer vaccines. It was this seminal observation that impelled Dr. Dranoff and his team to initiate development of an immunotherapy that could help patients with melanoma. They engineered irradiated human melanoma tumor cells to secrete GM-CSF, forming the basis of a vaccine called GVAX. This vaccine induced immune responses strong enough to stabilize or eradicate some tumors. After vaccination, large numbers of CD4 and CD8 T cells infiltrated the tumors and contributed to establishing a microenvironment that was antitumor. The approach is now not only being investigated for other solid and hematopoietic tumor types, but also is being combined with other immunotherapeutic approaches, such as checkpoint blockade, as a means to not only generate but also to sustain beneficial responses. Dr. Dranoff's group also investigated the mechanisms underlying effective and ineffective immune responses to tumors, including, but not limited to, studies of specific knockout mice, identification of the antigens that are targeted by T cells, and determining the specificity of antibodies that develop in patients responding to tumor antigens. Thus, Dr. Dranoff has emerged as one of the leading scholars and clinical investigators in the field of cancer immunology and immunotherapy. Until recently, Dr. Dranoff was a professor at the Dana-Farber Cancer Institute of Harvard Medical School in Boston, MA, but left that position in March 2015 to become the Global Head of Immuno-Oncology at Novartis Institutes for BioMedical Research in Cambridge, MA. Dr. Dranoff also is the founding editor-in-chief of *Cancer Immunology Research*.

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