**MILESTONES IN CANCER IMMUNOLOGY**

1291 The 2015 William B. Coley Awards

**CANCER IMMUNOLOGY AT THE CROSSROADS: BIOSTATISTICS**

1292 Statistical Challenges in the Design of Late-Stage Cancer Immunotherapy Studies
   Rosemarie Mick and Tai-Tsang Chen

**CANCER IMMUNOLOGY MINIATURES**

1299 Subacute CNS Demyelination after Treatment with Nivolumab for Melanoma
   Catherine Maurice, Raphael Schneider, Tim-Rasmus Kiehl, Prashant Bavi, Michael H.A. Roehrl, Warren P. Mason, and David Hogg

**PRIORITY BRIEFS**

1303 PD-1 and PD-L1 Expression in Renal Cell Carcinoma with Sarcomatoid Differentiation
   Richard W. Joseph, Sherri Z. Millis, Estrella M. Carballido, David Bryant, Zoran Gatalica, Sandeep Reddy, Alan H. Bryce, Nicholas J. Vogelzang, Melissa L. Stanton, Erik P. Castle, and Thai H. Ho

1308 PD-L1 Antibodies to Its Cytoplasmic Domain Most Clearly Delineate Cell Membranes in Immunohistochemical Staining of Tumor Cells
   Kathleen M. Mahoney, Heather Sun, Xiaoyun Liao, Ping Hua, Marcella Callea, Edward A. Greenfield, Kathleen M. Mahoney, Heather Sun, Xiaoyun Liao, Ping Hua, Marcella Callea, Edward A. Greenfield, F. Stephen Hodi, Arlene H. Sharpe, Sabina Signoretti, Scott J. Rodig, and Gordon J. Freeman

**RESEARCH ARTICLES**

1316 Simultaneous Targeting of FcγRs and FcγRI Enhances Tumor Cell Killing
   Arianne M. Brandsma, Toine ten Broeke, Maaike Nederend, Laura A.P.M. Meulenbroek, Geert van Tetering, Saskia Meyer, J.H. Marco Jansen, M. Alejandra Beltrán Butraguo, Siets E. Nagelkerke, Istvan Nemeth, Ruud Ubink, Gerard Rouwendal, Stefan Losee, Thomas Valerius, Jeanette H.W. Leenen, and Peter Boross

1325 Complement Factor H Antibodies from Lung Cancer Patients Induce Complement-Dependent Lysis of Tumor Cells, Suggesting a Novel Immunotherapeutic Strategy
   Michael J. Campa, Elizabeth B. Gottlin, Ryan T. Bushey, and Edward F. Patz Jr

1333 Efficacy of a Cancer Vaccine against ALK-Rearranged Lung Tumors
   Claudia Voena, Matteo Menotti, Cristina Mastini, Filomena Di Giacomo, Dario Livio Longo, Barbara Castella, Maria Elena Boggio Merlo, Chiara Ambrogio, Qi Wang, Valerio Giacomo Minero, Teresa Poggio, Cinzia Martinengo, Lucia D'Amico, Elena Panizza, Luca Mologni, Federica Cavallaro, Fiorella Altruda, Mohit Butaney, Marzia Capelletti, Giorgio Inghirami, Pasi A. Jänne, and Roberto Chiarle

1344 Progression of Lung Cancer Is Associated with Increased Dysfunction of T Cells Defined by Coexpression of Multiple Inhibitory Receptors
   Daniela S. Thommen, Jens Schreiner, Philipp Müller, Petra Herzog, Andreas Roller, Anton Belousov, Pablo Urmana, Pavel Pisa, Christian Klein, Marina Bacac, Ozana S. Fischer, Wolfgang Moersig, Spasenija Savic Prince, Victor Levitsky, Vaiois Karanikas, Didier Landinois, and Alfre Zippelius

**December 2015 • Volume 3 • Issue 12**
Prognostic Significance of CD169⁺ Lymph Node Sinus Macrophages in Patients with Malignant Melanoma
Yoichi Saito, Koji Ohnishi, Azusa Miyashita, Satoshi Nakahara, Yukio Fujiwara, Hasita Horlad, Takanobu Motoshima, Satoshi Fukushima, Masatoshi Jinjin, Hitonobu Ihn, Motohiro Takeya, and Yoshihiro Komohara

Prognostic indicators are needed for malignant melanoma. The presence of high densities of CD169⁺ macrophages in the draining lymph nodes of patients significantly correlates with CTL infiltration and longer overall survival, providing a potentially useful biomarker.

Effector CD8⁺ T-cell Engraftment and Antitumor Immunity in Lymphodepleted Hosts Is IL7Rα Dependent
C. Bryce Johnson, Brian P. Riesenberg, Bennett R. May, Stuart C. Gilreath, Guangfu Li, Kevin F. Staveley-O’Carroll, Elizabeth Garrett-Mayer, Shikhar Mehrotra, David J. Cole, and Mark P. Rubinstein

Adoptive cellular immunotherapy requires donor cells to survive and accumulate, which this study shows requires an IL12/IL7 axis in activated CD8⁺ T cells. IL12 leads to enhanced IL7Ra expression and IL7 responsiveness, which maximizes antitumor efficacy.

HDAC Inhibition Upregulates PD-1 Ligands in Melanoma and Augments Immunotherapy with PD-1 Blockade

Combining other agents with immune-based approaches can enhance treatment for melanoma. PDL-1 gene expression was increased after inhibition of histone deacetylases. Combining PD-1-blockade immunotherapy with histone deacetylase inhibition increased responses in a mouse model of melanoma.

Acknowledgment to Reviewers

ABOUT THE COVER
Some patients with early stage non–small cell lung cancer never develop metastatic disease. Autoantibodies isolated from these individuals bind to a cryptic epitope of a complement-blocking protein called complement factor H (CFH). In the presence of CFH, cells are protected from complement killing. Given that the CFH epitope to which the autoantibodies bind is not normally exposed, these autoantibodies may be interfering with CFH only within tumors, relieving the block to complement, and making it possible to kill cancer cells that would otherwise be protected. The cover art (left) was inspired by the micrograph (right) of autoantibodies to CFH binding to the lung cancer cell line A549, and detected with AlexaFluor 647-conjugated anti-human IgG. Fluorescence micrograph image taken by Rebekah Dumm (Duke University Medical Center); artwork by Lewis Long. Read more about these autoantibodies in Campa et al., page 1325 in this issue of Cancer Immunology Research.