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, Sherry Z. Millis, Estrella M. Carballido, David Bryant, Zoran Gatalica, Sandeep Reddy, Alan H. Bryer, Nicholas J. Vogelzang, Melissa L. Stanton, Erik F. 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, F. Stephen Hodi, Arlene H. Sharpe, Sabina Signoretti, Scott J. Rodig, and Gordon J. Freeman

RESEARCH ARTICLES

1316  Simultaneous Targeting of FcγRs and FcαRI Enhances Tumor Cell Killing

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 Cavallo, 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 Herzig, Andreas Roller, Anton Belousov, Pablo Umana, Pavel Pisa, Christian Klein, Marina Bacac, Ozana S. Fischer, Wolfgang Moersig, Spasenija Savic Prince, Victor Levitsky, Vaios Karkanias, Didier Landinois, and Alfréd Zippelius

T cells within non–small cell lung cancer tumors acquire greater numbers, and more diversity, of inhibitory receptors as tumors progress, correlating with a loss in function as well as in their ability to be reactivated after anti-checkpoint treatment.
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 Jinnin, 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. Riesenber, Bennett R. May, Stuart C. Gilreath, Guangfu Li, Kevin F. Staveley-O’Carroll, Elizabeth Garret-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.