## Table of Contents

### Highlights of This Issue  273

### SPECIAL FEATURES

#### CCR Translations

275  Stressing the Development of Small Molecules Targeting HSP90  
Len Neckers and Jane B. Trepel  
*See related article, p. 445*

278  Pertuzumab Protects the Achilles’ Heel of Trastuzumab—Emtansine  
William R. Gwin and Neil L. Spector  
*See related article, p. 456*

### CCR Perspectives in Drug Approval

281  Predictive Value of Phase I Trials for Safety in Later Trials and Final Approved Dose: Analysis of 61 Approved Cancer Drugs  
Denis L. Jardim, Kenneth R. Hess, Patricia LoRusso, Razelle Kurzrock, and David S. Hong

### Molecular Pathways

289  Molecular Pathways: Targeting Inhibitor of Apoptosis Proteins in Cancer—From Molecular Mechanism to Therapeutic Application  
Simone Fulda

296  Molecular Pathways: Transcription Factories and Chromosomal Translocations  
Cameron S. Osborne

### Reviews

301  “Quitting Smoking Will Benefit Your Health”: The Evolution of Clinician Messaging to Encourage Tobacco Cessation  
Benjamin A. Toll, Alana M. Rojewski, Lindsay R. Duncan, Amy E. Latimer-Cheung, Lisa M. Fucito, Julie L. Boyer, Stephanie S. O’Malley, Peter Salovey, and Roy S. Herbst

310  Deep Molecular Response in Chronic Myeloid Leukemia: The New Goal of Therapy?  
François-Xavier Mahon and Gabriel Etienne

### HUMAN CANCER BIOLOGY

323  IgG-Switched CLL Has a Distinct Immunogenetic Signature from the Common MD Variant: Ontogenetic Implications  
Anna Vardi, Andreas Agathangelidis, Lesley-Ann Sutton, Maria Chatzouli, Lydia Scarfo, Larry Mansouri, Vassiliki Douka, Achilles Anagnostopoulos, Nikos Darzentas, Richard Rosenquist, Paolo Ghia, Chryssoula Belesi, and Kostas Stamatopoulos

331  Tumor-Reactive CD8+ T Cells in Metastatic Gastrointestinal Cancer Refractory to Chemotherapy  
Simon Turcotte, Alena Gros, Eric Tran, Chyi-Chia R. Lee, John R. Wunderlich, Paul F. Robbins, and Steven A. Rosenberg

344  Altered Microenvironment Promotes Progression of Preinvasive Breast Cancer: Myoepithelial Expression of αvβ6 Integrin in DCIS Identifies High-risk Patients and Predicts Recurrence  

358  The Activation of the WNT Signaling Pathway Is a Hallmark in Neurofibromatosis Type 1 Tumorigenesis  

372  Oncogenic Function of SCCRO5/DCUN1D5 Requires Its Neddylation E3 Activity and Nuclear Localization  
Claire C. Bommelje, Viola B. Werda, Guochang Huang, Kushyap Shah, Sarina Bains, Elizabeth Bus, Manish Shaha, Mithat Gönen, Ronald Ghosein, Suresh Y. Ramanathan, and Bhuvanesh Singh
# Table of Contents

## CANCER THERAPY: PRECLINICAL

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>382</td>
<td>Integrative Genomic Analysis of Temozolomide Resistance in Diffuse Large B-Cell Lymphoma&lt;br&gt;Violetta V. Leshchenko, Pei-Yu Kuo, Zewei Jiang, Venu K. Thirukonda, and Samir Parekh</td>
</tr>
<tr>
<td>393</td>
<td>Antitumoral Activity of Lenalidomide in In Vitro and In Vivo Models of Mantle Cell Lymphoma Involves the Destabilization of Cyclin D1/p27KIP1 Complexes&lt;br&gt;Alexandra Moros, Sophie Bustany, Julie Cahu, Ilgénia Saborit-Villarroya, Antonio Martínez, Dolores Colomer, Brigitte Sola, and Gaeł Roué</td>
</tr>
<tr>
<td>404</td>
<td>Proteomic Characterization of Breast Cancer Xenografts Identifies Early and Late Bevacizumab-Induced Responses and Predicts Effective Drug Combinations&lt;br&gt;Evita M. Lindholm, Marit Krohn, Sergio Iadevaia, Alexandr Kristian, Gordon B. Mills, Gunhild M. Milandsmo, and Olav Engebraaten</td>
</tr>
<tr>
<td>413</td>
<td>Preclinical Activity Profile and Therapeutic Efficacy of the HSP90 Inhibitor Ganetespib in Triple-Negative Breast Cancer&lt;br&gt;David A. Proia, Chaohua Zhang, Manuel Sequeira, John-Paul Gimenez, Suqin He, Neil Spector, Geoffrey I. Shapiro, Donald L. Smith, Susan O’Brien, Christopher Stogard, and Daniel Von Hoff</td>
</tr>
</tbody>
</table>

## CANCER THERAPY: CLINICAL

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>445</td>
<td>A Phase 1, Dose-Escalation, Pharmacokinetic and Pharmacodynamic Study of BIIB021 Administered Orally in Patients with Advanced Solid Tumors&lt;br&gt;Muhammad Wasiif Saif, Chris Takimoto, Monica Mita, Udai Banerji, Nicole Lamanna, Januario Castro, Susan O’Brien, Christopher Stogard, and Daniel Von Hoff&lt;br&gt;&lt;small&gt;Note: See related article, p. 275&lt;/small&gt;</td>
</tr>
<tr>
<td>456</td>
<td>Dual Targeting of HER2-Positive Cancer with Trastuzumab Emtansine and Pertuzumab: Critical Role for Neuregulin Blockade in Antitumor Response to Combination Therapy&lt;br&gt;Gail D. Lewis Phillips, Carter T. Fields, Guangmin Li, Donald Dowbenko, Fabrice Andre, Howard A. Burris III, Nadia Harbeck, Veronique Dieras, Diana Crivellari, Liang Fang, Steven Olsen, Lisa M. Crocker, and Mark X. Slivkowsky&lt;br&gt;&lt;small&gt;Note: See related article, p. 278&lt;/small&gt;</td>
</tr>
<tr>
<td>469</td>
<td>The High-Affinity CXCR4 Antagonist BKT140 is Safe and Induces a Robust Mobilization of Human CD34&lt;sup&gt;+&lt;/sup&gt; Cells in Patients with Multiple Myeloma&lt;br&gt;Amnon Peled, Michal Abraham, Irit Avivi, Jacob M. Rowe, Katia Beider, Hanna Wald, Lena Tiomkin, Yossi Riback, Varon Ramati, Sigal Aviel, Ethan Galun, Howard Laurence Shaw, Orly Eizenberg, Izhar Hardan, Avichai Shimoni, and Amon Nagler</td>
</tr>
</tbody>
</table>

## IMAGING, DIAGNOSIS, PROGNOSIS

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>425</td>
<td>Prognostic Relevance of Circulating Tumor Cells in Blood and Disseminated Tumor Cells in Bone Marrow of Patients with Squamous Cell Carcinoma of the Oral Cavity&lt;br&gt;Alexander Gröbe, Marco Blessmann, Henning Hanken, Reinhard E. Friedrich, Gerhard Schön, Johannes Wikner, Katharina E. Effgenberger, Jan Kluwe, Max Heiland, Klaus Pantel, and Sabine Riethdorf</td>
</tr>
<tr>
<td>434</td>
<td>Tumor-Infiltrating Lymphocytes Expressing the Tissue Resident Memory Marker CD103 Are Associated with Increased Survival in High-Grade Serous Ovarian Cancer&lt;br&gt;John R. Webb, Katy Milne, Peter Watson, Ronald J. deLeeuw, and Brad H. Nelson</td>
</tr>
</tbody>
</table>
Neoadjuvant Imatinib in Advanced Primary or Locally Recurrent Dermatofibrosarcoma Protuberans: A Multicenter Phase II DeCOG Trial with Long-term Follow-up
Selma Ugurel, Thomas Mentzel, Jochen Utikal, Peter Helmbold, Peter Mohr, Claudia Pföhler, Meinhard Schiller, Axel Hauschild, Rüdiger Hein, Eckhardt Kämpgen, Ivonne Kellner, Martin Leverkus, Jürgen C. Becker, Philip Ströbel, and Dirk Schadendorf

Research-Based PAM50 Subtype Predictor Identifies Higher Responses and Improved Survival Outcomes in HER2-Positive Breast Cancer in the NOAH Study
Aleix Prat, Giampaolo Bianchini, Marlene Thomas, Anton Belousov, Maggie C.U. Cheang, Astrid Koehler, Patricia Gómez, Vladimir Semiglazov, Wolfgang Eiermann, Sergei Tjulandin, Mikhail Byakhow, Begoña Bermejo, Milvia Zambetti, Federico Vazquez, Luca Gianni, and José Baselga

ABOUT THE COVER
The cover shows a section of a lymph node biopsy from a patient with mantle cell lymphoma. Hematoxylin and eosin staining shows typical monomorphic small-to-medium-sized lymphoid cells with irregular nuclei. For details, see the article by Moros and colleagues on page 393 of this issue.