## Table of Contents

### October 2016 • Volume 15 • Number 10

#### Molecular Cancer Therapeutics

### Highlights of This Issue 2271

### SMALL MOLECULE THERAPEUTICS

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2282</td>
<td>Reversal of Chemoresistance in Ovarian Cancer by Co-Delivery of a P-Glycoprotein Inhibitor and Paclitaxel in a Liposomal Platform</td>
<td>Yilin Zhang, Shravan Kumar Sriraman, Hilary A. Kenny, Ed Luther, Vladimir Torchilin, and Ernst Lengyel</td>
</tr>
<tr>
<td>2294</td>
<td>A Novel Small Molecule Activator of Nuclear Receptor SHP Inhibits HCC Cell Migration via Suppressing Ccl2</td>
<td>Zhihong Yang, Angela N. Koehler, and Li Wang</td>
</tr>
<tr>
<td>2302</td>
<td>Mechanism-Based Drug Combinations with the DNA Strand-Breaking Nucleoside Analogue CNDAC</td>
<td>Xiaojun Liu, Yingjun Jiang, Billie Nowak, Sarah Hargis, and William Plunkett</td>
</tr>
<tr>
<td>2314</td>
<td>Barasertib (AZD1152), a Small Molecule Aurora B Inhibitor, Inhibits the Growth of SCLC Cell Lines In Vitro and In Vivo</td>
<td>Barbara A. Helfrich, Ji hye Kim, Desi Tan, Daniel C. Chan, Zhiyun Zhang, Aik-Choon Tan, and Paul A. Bunn Jr</td>
</tr>
<tr>
<td>2323</td>
<td>BPR1373, an Oral Multiple Tyrosine Kinase Inhibitor, Targets c-KIT for the Treatment of c-KIT-Driven Myeloid Leukemia</td>
<td>Li-Tzong Chen, Ji Hyun Chang, Weir-Torn Jia, Tsai-Yun Chen, Joseph H. Butterfield, Neng-Yao Shih, John Tso-An Hsu, Hui-You Lin, Sheng-Fung Lin, and Hui-Jen Tsai</td>
</tr>
<tr>
<td>2334</td>
<td>Debio 0617B Inhibits Growth of STAT3-Driven Solid Tumors through Combined Inhibition of JAK, SRC, and Class III/V Receptor Tyrosine Kinases</td>
<td>Maximilian Murone, Anne Vaslin Chessex, Antoine Attinger, Raghavveer Ramachandra, Shankar J. Shetty, Girish Daginakatte, Saumitra Sengupta, Shivapriya Marappan, Sani ela Dhoheri, Stefania Rigotti, Yogeshwar Bachhav, Silvano Brienza, Peter Traxler, Marc Lang, Michel Aguet, Vincent Zoete, Olivier Michielin, Courteney Nicholas, Faye M. Johnson, Murali Ramachandra, and Andres McAllister</td>
</tr>
<tr>
<td>2344</td>
<td>Characterization of LY3023414, a Novel PI3K/mTOR Dual Inhibitor Eliciting Transient Target Modulation to Impede Tumor Growth</td>
<td>Michele C. Smith, Mary M. Mader, James A. Cook, Philip Iversen, Rose Ajamie, Everett Perkins, Laura Bloom, Yvoonne Y. Yip, David A. Barda, Philip F. Waid, Douglas J. Zeckner, Debra A. Young, Manuel Sanchez-Felix, Gregory P. Donoho, and Volker Wachek</td>
</tr>
<tr>
<td>2357</td>
<td>Trabectedin Is Active against Malignant Pleural Mesothelioma Cell and Xenograft Models and Synergizes with Chemotherapy and Bcl-2 Inhibition In Vitro</td>
<td>Mir A. Hoda, Christine Pinker, Yawen Dong, Karin Schelch, Petra Heffner, Kushtim Kryczu, Sushilla van Schoonhoven, Thomas Kilkovits, Viktoriia Laszlo, Anita Rosas, Judit Oszvar, Walter Klepetko, Balazs Döme, Michael Grusch, Balazs Hegedus, and Walter Berger</td>
</tr>
<tr>
<td>2378</td>
<td>Irreversible Inhibition of EGFR: Modeling the Combined Pharmacokinetic–Pharmacodynamic Relationship of Osimertinib and Its Active Metabolite AZ5104</td>
<td>James W.T. Yates, Susan Ashton, Darren Cross, Martine J. Mellor, Stewart J. Powell, and Peter Ballard</td>
</tr>
<tr>
<td>2399</td>
<td>Lurbinectedin Specifically Triggers the Degradation of Phosphorylated RNA Polymerase II and the Formation of DNA Breaks in Cancer Cells</td>
<td>Gema Santamaria Núñez, Carlos Mario Genes Robles, Christophe Giraudon, Juan Fernando Martinez-Leal, Emmanuel Compe, Frédéric Coin, Pablo Aviles, Carlos Maria Galmarini, and Jean-Marc Egly</td>
</tr>
</tbody>
</table>
LARGE MOLECULE THERAPEUTICS

2413 In Vivo Antitumor Activity of a Recombinant IL7/IL15 Hybrid Cytokine in Mice
Yinhong Song, Yalan Liu, Rong Hu, Min Su, Debra Rood, and Laijun Lai

2422 In Vitro and In Vivo Efficacy of a Novel CD33-Targeted Thorium-227 Conjugate for the Treatment of Acute Myeloid Leukemia
Urs B. Hagemann, Katrine Wickstroem, Ellen Wang, Adam O. Shea, Kristine Sponheim, Jenny Karlsson, Timothy Harrison, Gerard G. Hanna, Karl T. Butterworth, Kevin M. Prise, and Daniel B. Longley

CANCER BIOLOGY AND SIGNAL TRANSDUCTION

2432 FLIP: A Targetable Mediator of Resistance to Radiation in Non–Small Cell Lung Cancer

2442 Hypoxia-Driven Mechanism of Vemurafenib Resistance in Melanoma
Yong Qin, Jason Roszik, Chandrani Chattopadhyay, Yuuri Hashimoto, Chengwen Liu, Zachary A. Cooper, Jennifer A. Wargo, Patrick Hwu, Suhendan Ekmekcioglu, and Elizabeth A. Grimm

2455 The Tyrosine Kinase Inhibitor Imatinib Augments Extracellular Fluid Exchange and Reduces Average Collagen Fibril Diameter in Experimental Carcinoma
P. Olof Olsson, Renata Gustafsson, René in ’t Zandt, Tomas Friman, Marco Maccarana, Emil Tykesson, Åke Oldberg, Kristoffer Rubin, and Sebastian Kalamajski

2465 FTY720 (Fingolimod) Inhibits HIF1 and HIF2 Signaling, Promotes Vascular Remodeling, and Chemosensitizes in Renal Cell Carcinoma Animal Model
Cécile Gotalder, Isabelle Ader, and Olivier Cuvillier

2475 TP53 Alterations Correlate with Response to VEGF/VEGFR Inhibitors: Implications for Targeted Therapeutics
Jennifer J. Wheler, Filip Janku, Aung Naing, Yali Li, Betzzy Stephen, Ralph Zinner, Vivek Subbiah, Siqing Fu, Daniel Karp, Gerald S. Falchook, Apostolia M. Tsimberidou, Sarina Piha-Paul, Roosevelt Anderson, Danaa Ke, Vincent Miller, Roman Yelensky, J. Jack Lee, David Hong, and Razelle Kurzrock

COMPANION DIAGNOSTICS AND CANCER BIOMARKERS

2486 EGFR and RB1 as Dual Biomarkers in HPV-Negative Head and Neck Cancer

2498 Genomic Landscape of Malignant Mesotheliomas
Shumei Kato, Brett N. Tomson, Timon P.H. Buys, Sheryl K. Elkin, Jennifer L. Carter, and Razelle Kurzrock

2508 Receptor Tyrosine Kinase Phosphorylation Pattern–Based Multidrug Combination Is an Effective Approach for Personalized Cancer Treatment
Xiaoxiao Sun, Qiaoling Song, Li He, Lei Yan, Jingli Liu, Qing Zhang, and Qiang Yu

MODELS AND TECHNOLOGIES

2521 Preclinical Modeling of KIF5B–RET Fusion Lung Adenocarcinoma
Qingling Huang, Valentina E. Schneeberger, Noreen Luetteke, Chengliu Jin, Roha Afzal, Mikalai M. Budziewicz, Rilesh J. Makanji, Gary V. Martinez, Tao Shen, Lichao Zhao, Kar-Ming Fung, Eric B. Haura, Domenico Coppola, and Jie Wu

2530 Biodistribution and Targeting of Anti-5T4 Antibody–Drug Conjugate Using Fluorescence Molecular Tomography
Anand Giddabasappa, Vijay R. Gupta, Rand Norberg, Parul Gupta, Mary E. Spiller, Joann Venlant, Brian Rago, Jeetendra Eswaren, Mauricio Leal, and Puja Sapra

2541 Development and Application of a Novel Model System to Study "Active" and "Passive" Tumor Targeting
Amarath Mukherjee, Binod Kumar, Koji Hatano, Luisa M. Russell, Bruce J. Trock, Peter C. Seardon, Alan K. Meeker, Martin G. Pomper, and Shawn E. Lupold

AC icon indicates Author Choice
For more information please visit www.aacrjournals.org
ABOUT THE COVER

A liposomal platform encapsulating both the third generation P-gp inhibitor tariquidar and paclitaxel was developed to overcome paclitaxel resistance in ovarian cancer cells. Liposomal paclitaxel-treated cells had a diffuse pattern of β-tubulin expression (shown in green). Treatment with liposomal tariquidar/paclitaxel resulted in cell rounding and ring-like β-tubulin formations around the nucleus. The liposomal encapsulated tariquidar and paclitaxel synergistically inhibited cell viability, blocked proliferation, and caused G2–M arrest in paclitaxel-resistant ovarian cancer cell lines. For details, see the article by Zhang, Sriraman, and colleagues on page 2282.