

SPECIAL FEATURES

Highlights of This Issue 6757

CCR Drug Updates

6759 FDA Drug Approval: Elotuzumab in Combination with Lenalidomide and Dexamethasone for the Treatment of Relapsed or Refractory Multiple Myeloma

Nicole J. Gormley, Chia-Wen Ko, Albert Deisseroth, Lei Nie, Edvardas Kaminskas, Natasha Kormanik, Kirsten B. Goldberg, Ann T. Farrell, and Richard Pazdur

Review

6764 Immunotherapy of Prostate Cancer: Facts and Hopes

Marijo Bilusic, Ravi A. Madan, and James L. Gulley

CANCER THERAPY: CLINICAL

6771 Low-Dose Cyclophosphamide Induces Antitumor T-Cell Responses, which Associate with Survival in Metastatic Colorectal Cancer

Martin Scurr, Tom Pembroke, Anja Bloom, David Roberts, Amanda Thomson, Kathryn Smart, Hayley Bridgeman, Richard Adams, Alison Brewster, Robert Jones, Sarah Gwynne, Daniel Blount, Richard Harrop, Robert Hills, Awen Gallimore, and Andrew Godkin

6781 Genomic Characterization of Vulvar (Pre)cancers Identifies Distinct Molecular Subtypes with Prognostic Significance

Linda S. Nooij, Natalja T. ter Haar, Dina Ruano, Natalia Rakislova, Tom van Wezel, Vincent T.H.B.M. Smit, Baptist J.B.M.Z. Trimbos, Jaume Ordi, Mariette I.E. van Poelgeest, and Tjalling Bosse

6790 Single Dose of the CXCR4 Antagonist BL-8040 Induces Rapid Mobilization for the Collection of Human CD34⁺ Cells in Healthy Volunteers

Michal Abraham, Yaron Pereg, Baruch Bulvik, Shiri Klein, Inbal Mishalian, Hana Wald, Orly Eizenberg, Katia Beider, Arnon Nagler, Rottem Golan, Abi Vainstein, Arnon Aharon, Eithan Galun, Yoseph Caraco, Reuven Or, and Amnon Peled

6802 Impact of Therapy on Genomics and Transcriptomics in High-Risk Prostate Cancer Treated with Neoadjuvant Docetaxel and Androgen Deprivation Therapy

Himisha Beltran, Alexander W. Wyatt, Edmund C. Chedgy, Adam Donoghue, Matti Annala, Evan W. Warner, Kevin Beja, Michael Sigouros, Fan Mo, Ladan Fazli, Colin C. Collins, James Eastham, Michael Morris, Mary-Ellen Taplin, Andrea Sboner, Susan Halabi, and Martin E. Gleave

6812 Expression of PD-L1 in Hormone-naïve and Treated Prostate Cancer Patients Receiving Neoadjuvant Abiraterone Acetate plus Prednisone and Leuprolide

Carla Calagua, Joshua Russo, Yue Sun, Rachel Schaefer, Rosina Lis, Zhenwei Zhang, Kathleen Mahoney, Glenn J. Bubley, Massimo Loda, Mary-Ellen Taplin, Steven P. Balk, and Huihui Ye

6823 A Phase II Trial of Neoadjuvant MK-2206, an AKT Inhibitor, with Anastrozole in Clinical Stage II or III PIK3CA-Mutant ER-Positive and HER2-Negative Breast Cancer

Cynthia X. Ma, Vera Suman, Matthew P. Goetz, Donald Northfelt, Mark E. Burkard, Foluso Ademuyiwa, Michael Naughton, Julie Margenthaler, Rebecca Aft, Richard Gray, Amye Tevaarwerk, Lee Wilke, Tufia Haddad, Timothy Moynihan, Charles Loprinzi, Tina Hieken, Erica K. Barnell, Zachary L. Skidmore, Yan-Yang Feng, Kilannin Krysiak, Jeremy Hoog, Zhanfang Guo, Leslie Nehring, Kari B. Wisinski, Elaine Mardis, Ian S. Hagemann, Kiran Vij, Souzan Sanati, Hussam Al-Kateb, Obi L. Griffith, Malachi Griffith, Laurence Doyle, Charles Erlichman, and Matthew J. Ellis

6833 Phase I Study of a Poxviral TRICOM-Based Vaccine Directed Against the Transcription Factor Brachyury

Christopher R. Heery, Claudia Palena, Sheri McMahon, Renee N. Donahue, Lauren M. Lepone, Italia Grenga, Ulrike Dirmeier, Lisa Cordes, Jenn Marté, William Dahut, Harpreet Singh, Ravi A. Madan, Romaine I. Fernando, Duane H. Hamilton, Jeffrey Schlom, and James L. Gulley

6846 Epidermal Growth Factor Receptor Variant III (EGFRvIII) Positivity in EGFR-Amplified Glioblastomas: Prognostic Role and Comparison between Primary and Recurrent Tumors

Jörg Felsberg, Bettina Hentschel, Kerstin Kaulich, Dorothee Gramatzki, Angela Zacher, Bastian Malzkorn, Marcel Kamp, Michael Sabel, Matthias Simon, Manfred Westphal, Gabriele Schackert, Jörg C. Tonn, Torsten Pietsch, Andreas von Deimling, Markus Loeffler, Guido Reifenberger, and Michael Weller, and for the German Glioma Network

Table of Contents

PERSONALIZED MEDICINE AND IMAGING

- 6856** **Circulating Cell-free DNA for Metastatic Cervical Cancer Detection, Genotyping, and Monitoring**
Zhigang Kang, Sanja Stevanović, Christian S. Hinrichs, and Liang Cao
- 6863** **MSH2 Loss in Primary Prostate Cancer**
Liana B. Guedes, Emmanuel S. Antonarakis, Michael T. Schweizer, Nooshin Mirkheshti, Fawaz Almutairi, Jong Chul Park, Stephanie Glavaris, Jessica Hicks, Mario A. Eisenberger, Angelo M. De Marzo, Jonathan I. Epstein, William B. Isaacs, James R. Eshleman, Colin C. Pritchard, and Tamara L. Lotan
- 6875** **Deletion of 11q in Neuroblastomas Drives Sensitivity to PARP Inhibition**
Elena Sanmartín, Lisandra Muñoz, Marta Piqueras, J. Antoni Sirerol, Pablo Berlanga, Adela Cañete, Victoria Castel, and Jaime Font de Mora
- 6888** **Prospective Validation of Molecular Prognostic Markers in Cutaneous Melanoma: A Correlative Analysis of E1690**
Mohammed Kashani-Sabet, Mehdi Nosrati, James R. Miller III, Richard W. Sagebiel, Stanley P.L. Leong, Andrew Lesniak, Schuyler Tong, Sandra J. Lee, and John M. Kirkwood
- 6893** **Optoacoustic Detection of Early Therapy-Induced Tumor Cell Death Using a Targeted Imaging Agent**
Bangwen Xie, Michal R. Tomaszewski, André A. Neves, Susana Ros, De-En Hu, Sarah McGuire, Stefanie R. Mullins, David Tice, Richard C.A. Sainson, Sarah E. Bohndiek, Robert W. Wilkinson, and Kevin M. Brindle
- 6904** **A Radiomics Nomogram for the Preoperative Prediction of Lymph Node Metastasis in Bladder Cancer**
Shaoxu Wu, Junjiong Zheng, Yong Li, Hao Yu, Siya Shi, Weibin Xie, Hao Liu, Yangfan Su, Jian Huang, and Tianxin Lin
- 6912** **Multispectral Optoacoustic Tomography (MSOT) of Human Breast Cancer**
Gael Diot, Stephan Metz, Aurelia Noske, Evangelos Liapis, Barbara Schroeder, Saak V. Ovsepian, Reinhard Meier, Ernst Rummeny, and Vasilis Ntziachristos

CANCER THERAPY: PRECLINICAL

- 6923** **Targeting Prostate Cancer Subtype 1 by Forkhead Box M1 Pathway Inhibition**
Kirsi Ketola, Ravi S.N. Munuganti, Alastair Davies, Ka Mun Nip, Jennifer L. Bishop, and Amina Zoubeidi

- 6934** **Personalized Medicine–Based Approach to Model Patterns of Chemoresistance and Tumor Recurrence Using Ovarian Cancer Stem Cell Spheroids**
Shreya Raghavan, Pooja Mehta, Maria R. Ward, Michael E. Bregenzler, Elyse M. A. Fleck, Lijun Tan, Karen McLean, Ronald J. Buckanovich, and Geeta Mehta
- 6946** **Frequent Genetic Aberrations in the CDK4 Pathway in Acral Melanoma Indicate the Potential for CDK4/6 Inhibitors in Targeted Therapy**
Yan Kong, Xinan Sheng, Xiaowen Wu, Junya Yan, Meng Ma, Jiayi Yu, Lu Si, Zhihong Chi, Chuanliang Cui, Jie Dai, Yiqian Li, Huan Yu, Tianxiao Xu, Huan Tang, Bixia Tang, Lili Mao, Bin Lian, Xuan Wang, Xieqiao Yan, Siming Li, and Jun Guo
- 6958** **Combined CDK4/6 and mTOR Inhibition Is Synergistic against Glioblastoma via Multiple Mechanisms**
Inan Olmez, Breanna Brenneman, Aizhen Xiao, Vlad Serbulea, Mouadh Benamar, Ying Zhang, Laryssa Manigat, Tarek Abbas, Jeongwu Lee, Ichiro Nakano, Jakub Godlewski, Agnieszka Bronisz, Roger Abounader, Norbert Leitinger, and Benjamin Purow
- 6969** **Chemogenomic Landscape of *RUNX1*-mutated AML Reveals Importance of *RUNX1* Allele Dosage in Genetics and Glucocorticoid Sensitivity**
Laura Simon, Vincent-Philippe Lavallée, Marie-Eve Bordeleau, Jana Krosil, Irène Baccelli, Geneviève Boucher, Bernhard Lehnertz, Jalila Chagraoui, Tara MacRae, Réjean Ruel, Yves Chantigny, Sébastien Lemieux, Anne Marinier, Josée Hébert, and Guy Sauvageau
- 6982** **Enhanced Cancer Immunotherapy by Chimeric Antigen Receptor–Modified T Cells Engineered to Secrete Checkpoint Inhibitors**
Si Li, Natnaree Siriwon, Xiaoyang Zhang, Shuai Yang, Tao Jin, Feng He, Yu Jeong Kim, John Mac, Zhengfei Lu, Sijie Wang, Xiaolu Han, and Pin Wang
- 6993** **Synergy of WEE1 and mTOR Inhibition in Mutant *KRAS*-Driven Lung Cancers**
Josephine Hai, Shengwu Liu, Lauren Bufe, Khanh Do, Ting Chen, Xiaoen Wang, Christine Ng, Shuai Li, Ming-Sound Tsao, Geoffrey I. Shapiro, and Kwok-Kin Wong
- 7006** **Defective Cyclin B1 Induction in Trastuzumab-emptansine (T-DM1) Acquired Resistance in HER2-positive Breast Cancer**
MohammadA Sabbaghi, Gabriel Gil-Gómez, Cristina Guardia, Sonia Servitja, Oriol Arpí, Sara García-Alonso, Silvia Menendez, Montserrat Arumi-Uria, Laia Serrano, Marta Salido, Aura Muntasell, Maria Martínez-García, Sandra Zazo, Cristina Chamizo, Paula González-Alonso, Juan Madoz-Gúrpide, Pilar Eroles, Joaquín Arribas, Ignasi Tusquets, Ana Lluç, Atanasio Pandiella, Federico Rojo, Ana Rovira, and Joan Albanell

Table of Contents

- 7020** Selected Alkylating Agents Can Overcome Drug Tolerance of G₀-like Tumor Cells and Eradicate BRCA1-Deficient Mammary Tumors in Mice
Marina Pajic, Sohvi Blatter, Charlotte Guyader, Maaïke Gonggrijp, Ariena Kersbergen, Aslı Küçükosmanoğlu, Wendy Sol, Rinske Drost, Jos Jonkers, Piet Borst, and Sven Rottenberg
- 7034** Macrophages Facilitate Resistance to Anti-VEGF Therapy by Altered VEGFR Expression
Heather J. Dalton, Sunila Pradeep, Michael McGuire, Yared Hailemichael, Shaolin MA, Yasmin Lyons, Guillermo N. Armaiz-Pena, Rebecca A. Previs, Jean Marie Hansen, Rajesha Rupaimoole, Vianey Gonzalez-Villasana, Min Soon Cho, Sherry Y. Wu, Lingegowda S. Mangala, Nicholas B. Jennings, Wei Hu, Robert Langley, Hong Mu, Michael Andreeff, Menashe Bar-Eli, Willem Overwijk, Prahlad Ram, Gabriel Lopez-Berestein, Robert L. Coleman, and Anil K. Sood
- 7047** Tumor Resection Recruits CD4/CD8 T Cells and Boosts Therapeutic Efficacy of Encapsulated Stem Cells Expressing IFN β in Glioblastomas
Sung Hugh Choi, Daniel W. Stuckey, Sara Pignatta, Clemens Reinshagen, Jasneet Kaur Khalsa, Nicolaas Roozendaal, Jordi Martinez-Quintanilla, Kaoru Tamura, Erhan Keles, and Khalid Shah
- 7084** MET–GRB2 Signaling-Associated Complexes Correlate with Oncogenic MET Signaling and Sensitivity to MET Kinase Inhibitors
Matthew A. Smith, Thomas Licata, Aliya Lakhani, Marileila Varella Garcia, Hans-Ulrich Schildhaus, Vincent Vuaroqueaux, Balazs Halmos, Alain C. Borczuk, Y. Ann Chen, Benjamin C. Creelan, Theresa A. Boyle, and Eric B. Haura
- 7097** *MITF*-High and *MITF*-Low Cells and a Novel Subpopulation Expressing Genes of Both Cell States Contribute to Intra- and Intertumoral Heterogeneity of Primary Melanoma
Marie Ennen, Céline Keime, Giovanni Gambi, Alice Kieny, Sebastien Coassolo, Christelle Thibault-Carpentier, Fanny Margerin-Schaller, Guillaume Davidson, Constance Vagne, Dan Lipsker, and Irwin Davidson
- 7108** Downregulation of *SAFB* Sustains the NF- κ B Pathway by Targeting *TAK1* during the Progression of Colorectal Cancer
 Hong-Li Jiao, Ya-Ping Ye, Run-Wei Yang, Hui-Ying Sun, Shu-Yang Wang, Yong-Xia Wang, Zhi-Yuan Xiao, Liu-Qing He, Juan-Juan Cai, Wen-Ting Wei, Yan-Ru Chen, Chun-Cai Gu, Yue-Long Cai, Yun-Teng Hu, Qiu-Hua Lai, Jun-Feng Qiu, Li Liang, Guang-Wen Cao, Wen-Ting Liao, and Yan-Qing Ding
- 7119** Non-Hodgkin and Hodgkin Lymphomas Select for Overexpression of *BCLW*
Clare M. Adams, Ramkrishna Mitra, Jerald Z. Gong, and Christine M. Eischen
- 7130** Antagonism of EG-VEGF Receptors as Targeted Therapy for Choriocarcinoma Progression *In Vitro* and *In Vivo*
Wael Traboulsi, Frédéric Sergent, Houssine Boufettal, Sophie Brouillet, Rima Slim, Pascale Hoffmann, Mohammed Benlahfid, Qun Y. Zhou, Gianfranco Balboni, Valentina Onnis, Pierre A. Bolze, Aude Salomon, Philippe Sauthier, François Mallet, Touria Aboussaouira, Jean J. Feige, Mohamed Benharouga, and Nadia Alfaidy
- 7141** A Panel of Novel Detection and Prognostic Methylated DNA Markers in Primary Non-Small Cell Lung Cancer and Serum DNA
Akira Ooki, Zahra Maleki, Jun-Chieh J. Tsay, Chandra Goparaju, Mariana Brait, Nitesh Turaga, Hae-Seong Nam, William N. Rom, Harvey I. Pass, David Sidransky, Rafael Guerrero-Preston, and Mohammad Obaidul Hoque

BIOLOGY OF HUMAN TUMORS

- 7059** Macropinocytosis of Bevacizumab by Glioblastoma Cells in the Perivascular Niche Affects their Survival
Gaëlle Müller-Greven, Cathleen R. Carlin, Monica E. Burgett, Manmeet S. Ahluwalia, Adam Lauko, Amy S. Nowacki, Cameron J. Herting, Maha A. Qadan, Markus Bredel, Steven A. Toms, Justin D. Lathia, Dolores Hambarzumyan, Jann N. Sarkaria, Petra Hamerlik, and Candece L. Gladson
- 7072** TOP2A and EZH2 Provide Early Detection of an Aggressive Prostate Cancer Subgroup
David P. Labbé, Christopher J. Sweeney, Myles Brown, Phillip Galbo, Spencer Rosario, Kristine M. Wadosky, Sheng-Yu Ku, Martin Sjöström, Mohammed Alshalalfa, Nicholas Erho, Elai Davicioni, R. Jeffrey Karnes, Edward M. Schaeffer, Robert B. Jenkins, Robert B. Den, Ashley E. Ross, Michaela Bowden, Ying Huang, Kathryn P. Gray, Felix Y. Feng, Daniel E. Spratt, David W. Goodrich, Kevin H. Eng, and Leigh Ellis



AC icon indicates AuthorChoice

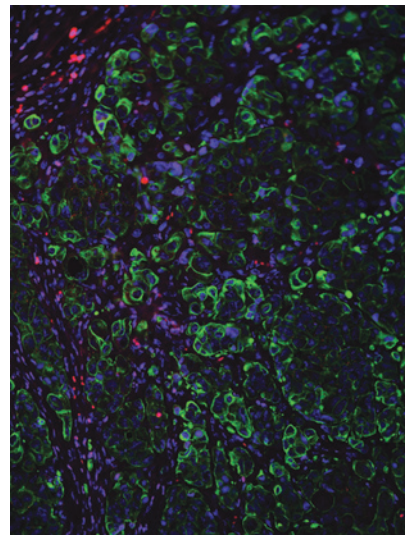
For more information please visit www.aacrjournals.org



Table of Contents

ABOUT THE COVER

The cover shows a section of a *MET*-amplified patient-derived xenograft analyzed by MET:GRB2 proximity ligation assay. Analysis of MET:GRB2 signaling-associated complexes may help predict response to MET tyrosine kinase inhibitors. For details, see the article by Smith and colleagues on page 7084 of this issue.



Clinical Cancer Research

23 (22)

Clin Cancer Res 2017;23:6757-7152.

Updated version Access the most recent version of this article at:
<http://clincancerres.aacrjournals.org/content/23/22>

E-mail alerts [Sign up to receive free email-alerts](#) related to this article or journal.

Reprints and Subscriptions To order reprints of this article or to subscribe to the journal, contact the AACR Publications Department at pubs@aacr.org.

Permissions To request permission to re-use all or part of this article, use this link <http://clincancerres.aacrjournals.org/content/23/22>.
Click on "Request Permissions" which will take you to the Copyright Clearance Center's (CCC) Rightslink site.