PERSPECTIVES

949 The Dawn of a Revolution in Personalized Lung Cancer Prevention
Fadlo R. Khuri
See article by Mao et al., p. 984

954 Cancer Vaccines: Moving Toward Prevention?
Larry W. Kwak
See article by Berta et al., p. 994

957 Rapamycin and mTORC1 Inhibition in the Mouse: Skin Cancer Prevention
Mohammad Athar and Levy Kopelovich
See article by Checkley et al., p. 1011

COMMENTARY

962 The BATTLE to Personalize Lung Cancer Prevention through Reverse Migration
Kathryn A. Gold, Edward S. Kim, J. Jack Lee, Ignacio I. Wistuba, Carol J. Farhangfar, and Waun Ki Hong

MINIREVIEW

973 Role of Autophagy in Cancer Prevention
Hsin-Yi Chen and Eileen White

RESEARCH ARTICLES

984 Lung Cancer Chemoprevention with Celecoxib in Former Smokers
Jenny T. Mao, Michael D. Roth, Michael C. Fishbein, Denise R. Aberle, Zuo-Feng Zhang, Jian Yu Rao, Donald P. Tashkin, Lee Goodglick, E. Carmack Holmes, Robert B. Cameron, Steven M. Dubinett, Robert Elashoff, Eva Szabo, and David Elashoff
See perspective p. 949

994 A DNA Vaccine against ERBB2 Impairs Chemical Carcinogenesis in Random-Bred Hamsters
Giovanni N. Berta, Andrea E. Sprio, Manuela Iezzi, Michela Spadaro, Susanna Cappia, Paolina Salamone, Federica Di Scipio, Barbara Mognetti, Mauro Papotti, Piero Musiani, Guido Forni, and Federica Cavallo
See perspective p. 954

1002 Decreased Prostate Cancer-Specific Survival of Men with BRCA2 Mutations from Multiple Breast Cancer Families
Heather Thorne, Amber J. Willems, Eveline Niedermayr, Ivan M.Y. Hoh, Jason Li, David Clouston, Gillian Mitchell, Stephen Fox, John L. Hopper, on behalf of the Kathleen Cunningham Consortium for Research in Familial Breast Cancer Consortium (KConFab) and Damien Bolton

1011 Rapamycin Is a Potent Inhibitor of Skin Tumor Promotion by 12-O-Tetradecanoylphorbol-13-Acetate
L. Allyson Checkley, Okkyung Rho, Tricia Moore, Steve Hursting, and John DiGiovanni
See perspective p. 957

1021 Inflammation and Increased Aromatase Expression Occur in the Breast Tissue of Obese Women with Breast Cancer
Patrick G. Morris, Cliford A. Hudis, Dilip Giri, Monica Morrow, Domenick J. Falcone, Xi Kathy Zhou, Baoheng Du, Edi Brogi, Carolyn B. Crawford, Levy Kopelovich, Kotha Subbaramaiah, and Andrew J. Dannenberg

1030 Genetic Reduction of Insulin-like Growth Factor-1 Mimics the Anticancer Effects of Calorie Restriction on Cyclooxygenase-2–Driven Pancreatic Neoplasia
Laura M. Lashinger, Lauren M. Malone, Jason A. Goldberg, Elizabeth A. Daniels, Amy Pavone, Jennifer K. Colby, Nicole C. Smith, Susan N. Perkins, Susan M. Fischer, and Stephen D. Hursting

1041 Rapamycin Partially Mimics the Anticancer Effects of Calorie Restriction in a Murine Model of Pancreatic Cancer
Laura M. Lashinger, Lauren M. Malone, Graham W. Brown, Elizabeth A. Daniels, Jason A. Goldberg, Glen Otto, Susan M. Fischer, and Stephen D. Hursting
Phospho-Sulindac (OXT-328) Combined with Difluoromethylornithine Prevents Colon Cancer in Mice
Gerardo G. Mackenzie, Nengtai Ouyang, Gang Xie, Kvetoslava Vrankova, Liqun Huang, Yu Sun, Despina Komninou, Levy Kopelovich, and Basil Rigas

NID2 and HOXA9 Promoter Hypermethylation as Biomarkers for Prevention and Early Detection in Oral Cavity Squamous Cell Carcinoma Tissues and Saliva

Enforced Expression of miR-101 Inhibits Prostate Cancer Cell Growth by Modulating the COX-2 Pathway In Vivo
Yuhin Hao, Xinxin Gu, Yuan Zhao, Stephen Greene, Wei Sha, Duane T. Smoot, Joseph Califano, T.-C. Wu, and Xiaowu Pang

Gambogic Acid Inhibits STAT3 Phosphorylation through Activation of Protein Tyrosine Phosphatase SHP-1: Potential Role in Proliferation and Apoptosis
Sahdeo Prasad, Manoj K. Pandey, Vivek R. Yadav, and Bharat B. Aggarwal

Endocytosis of Resveratrol via Lipid Rafts and Activation of Downstream Signaling Pathways in Cancer Cells
Didier Colin, Emeric Limagne, Sylvie Jeanningros, Arnaud Jacquel, Gerard Lizard, Anne Athias, Philippe Gambert, Aziz Hichami, Norbert Latruffe, Eric Solary, and Dominique Delmas

Benzyl Isothiocyanate Inhibits Epithelial-Mesenchymal Transition in Cultured and Xenografted Human Breast Cancer Cells
Anuradha Sehrawat and Shivendra V. Singh

Caffeine Decreases Phospho-Chk1 (Ser317) and Increases Mitotic Cells with Cyclin B1 and Caspase 3 in Tumors from UVB-Treated Mice
Yao-Ping Lu, You-Rong Lou, Qing-Yun Peng, Paul Nghiem, and Allan H. Conney

EarlyCDT-Lung: An Immunobiomarker Test as an Aid to Early Detection of Lung Cancer

Accurate Reconstruction of the Temporal Order of Mutations in Neoplastic Progression
Kathleen Sprouffske, John W. Pepper, and Carlo C. Maley
ABOUT THE COVER

Autophagy is a critical factor in cancer and in the development and progression of diseases associated with increased cancer risk. As a cytoprotective survival pathway, autophagy prevents chronic tissue damage that can lead to cancer initiation and progression; stimulating or restoring autophagy may prevent cancer. Once cancer occurs, however, autophagy can enhance cancer-cell fitness and survival. Moreover, many cancer therapeutics stimulate autophagy that may be a resistance mechanism. These findings suggest the possible benefit of autophagy inhibition in established cancers.

The cover features a fluorescence image (courtesy of Drs. Xiaoqi Xie and Eileen White) of a representative melanoma (UACC903) spheroid (a colony of cells growing in three dimensions in vitro and simulating tumor growth) after treatment with the mammalian target of rapamycin (mTOR) inhibitor and autophagy stimulator CCI-779 (temsirolimus) and with the autophagy inhibitor hydroxychloroquine. UACC903 cells were added to plates coated with 1.5% agar and incubated in growth medium until spheroids had formed (after 72 hours). The spheroids were then harvested and implanted into a gel of collagen type-I matrix, to which growth medium with the test drugs was added on top. After 72 hours, cell death was imaged by a two-color fluorescence cell-viability assay, with green representing live and red representing dead cells. Cell death is not apparent with either agent alone, whereas the combination of an autophagy and mTOR inhibitor induces cell death (as shown) and reduces spheroid size. See article by Chen and White (beginning on page 973) for more information on the emerging understanding of the importance of autophagy to cancer prevention.