COMMENTARIES

1007  Big Punches Come in Nanosizes for Chemoprevention
Dipali Sharma and Sarasadwi Sukumar
See article, p. 1015

1011  Combination of Chemopreventive Agents in Nanoparticles for Cancer Prevention
Chung S. Yang, Hong Wang, and Bing Hu
See article, p. 1015

RESEARCH ARTICLES

1015  A Novel Combinatorial Nanotechnology-Based Oral Chemopreventive Regimen Demonstrates Significant Suppression of Pancreatic Cancer Neoplastic Lesions
B. Karthik Grandhi, Arvind Thakkar, Jeffrey Wang, and Sunil Prabhu
See commentaries, pp. 1007 and 1011

1026  Liver Fatty Acid-Binding Protein (L-Fabp) Modifies Intestinal Fatty Acid Composition and Adenoma Formation in ApcMin/Mice
Sekhar Dharmarajan, Elizabeth P. Newberry, Grace Montenegro, ILKe Nalbantoglu, Victoria R. Davis, Michael J. Clanahan, Valerie Blanc, Yan Xie, Jianyang Luo, James W. Fleshman Jr., Susan Kennedy, and Nicholas O. Davidson

1038  Reduced Aflatoxin Exposure Presages Decline in Liver Cancer Mortality in an Endemic Region of China
Jian-Guo Chen, Patricia A. Egner, Derek Ng, Lisa P. Jacobson, Alvaro Munoz, Yuan-Rong Zhu, Geng-Sun Qian, Felicia Wu, Jian-Min Yuan, John D. Groopman, and Thomas W. Kensler

1046  Dietary Energy Balance Modulation of Kras- and Ink4a/Arf+/-/Driven Pancreatic Cancer: The Role of Insulin-like Growth Factor-I
Laura M. Lashinger, Lauren M. Harrison, Audrey J. Rasmussen, Craig D. Logsdon, Susan M. Fischer, Mark J. McArthur, and Stephen D. Hursting

1056  Anti-Genotoxic Potential of Bilirubin In Vivo: Damage to DNA in Hyperbilirubinemic Human and Animal Models
Marlies Wallner, Nadja Antl, Barbara Rittmannberger, Stephanie Schreidtl, Khaterah Najafi, Elisabeth Mullner, Christine Molzer, Franziska Ferl, Siegfried Knasmuller, Rodrig Marculescu, Daniel Doberer, Henrik E. Poulsen, Libor Vitek, Andrew C. Bulmer, and Karl-Heinz Wagner

1064  High-Fat, High-Calorie Diet Promotes Early Pancreatic Neoplasia in the Conditional KrasG12D Mouse Model
David W. Dawson, Kathleen Hertzler, Aune Moro, Graham Donald, Hui-Hua Chang, Vay Liang Go, Steven J. Pandol, Aurelia Lugea, Anna S. Gukovskaya, Gang Li, Oscar J. Hines, and Enrike Rozengurt

1084  Vitamin E δ-Tocotrienol Prolongs Survival in the LSL-KrasG12D+/LSL-Trp53R172H+/;Pdx-1-Cre (KPC) Transgenic Mouse Model of Pancreatic Cancer
Kazim Husain, Barbara A. Centeno, Dung-Tsa Chen, Sunil R. Hingorani, Said M. Sebti, and Mokong E. Malafa

1093  Assessing the Breast Cancer Risk Distribution for Women Undergoing Screening in British Columbia
Christina R. Weisstock, Rasika Rajapakshe, Christabelle Bigood, Steven McAvoy, Paula B. Gordon, Andrew J. Coldman, Brent A. Parker, and Christine Wilson

1101  Examination of Whole Blood DNA Methylation as a Potential Risk Marker for Gastric Cancer
Tomomitsu Tahara, Shinji Maegawa, Woobok Chung, Judith Garriga, Jaroslav Jelinek, Marcos R.H. Estécio, Tomoyuki Shibata, Ichiro Hiraeta, Tomiyasu Arisawa, and Jean-Pierre J. Issa

1111  Risk Factors for Non-initiation of the Human Papillomavirus Vaccine among Adolescent Survivors of Childhood Cancer
James L. Klosky, Kathryn M. Russell, Kristin E. Canavera, Heather L. Gammel, Jason R. Hodges, Rebecca H. Foster, Gilbert R. Parra, Jessica L. Simmons, Daniel M. Green, and Melissa M. Hudson
ABOUT THE COVER

Current fecal tests (occult blood, methylation, DNA mutations) target minute amounts of tumor products among a large amount of fecal material and thus have suboptimal performance. By exploiting field carcinogenesis as a modality to amplify the neoplastic signal, the present study demonstrates that endoscopically normal rectal brushings have striking nano-architectural alterations which are detectable utilizing a novel optical technique, partial wave spectroscopic microscopy (PWS). Mucus layer fecal colonocytes (MLFCs) at preneoplastic and neoplastic time-points in azoxymethane (AOM)-treated rat models were examined using PWS analysis to derive the nano-architectural parameter, disorder strength (Ld). MLFCs from both control and AOM-treated animals appeared microscopically normal and identical under bright field microscopy. However, superimposing Ld pseudocolor maps on the images (cover micrograph; saline-treatment; AOM treatment not shown) revealed marked differences (elevation) in Ld in the AOM-treated rats in the areas of nucleus and cytoplasm when compared to control animals. Thus, by utilizing a biophotonics proof of principle approach to fecal assay, the present study demonstrates that targeting the nano-architectural changes of field carcinogenesis rather than the detection of tumor products may provide a novel paradigm for colorectal cancer screening. See article by Roy and colleagues (beginning on page 1111) for more information.
Cancer Prevention Research

6 (10)


Updated version
Access the most recent version of this article at:
http://cancerpreventionresearch.aacrjournals.org/content/6/10

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://cancerpreventionresearch.aacrjournals.org/content/6/10.
Click on "Request Permissions" which will take you to the Copyright Clearance Center's (CCC) Rightslink site.