Highlights of This Issue 899

CEBP Focus: Biomarkers and Biospecimens

901 Methodologic Data: Important Foundation for Molecular and Biomarker Studies
Jimmie B. Vaught and Ann W. Hsing

903 Limitations of Direct Immunoassays for Measuring Circulating Estradiol Levels in Postmenopausal Women and Men in Epidemiologic Studies
Frank Z. Stanczyk, Jordan Jurow, and Ann W. Hsing

907 Strengths and Limitations of Laboratory Procedures for MicroRNA Detection
Jill Koshiol, Ena Wang, Yingdong Zhao, Francesco Marincola, and Maria Teresa Landi

912 International Efforts to Develop Biospecimen Best Practices
Jimmie B. Vaught, Elodie Caboux, and Pierre Hainaut

916 Establishment and Operation of a Biorepository for Molecular Epidemiologic Studies in Costa Rica
Bernal Cortés, Mark Schifman, Rolando Herrero, Allan Hildesheim, Silvia Jiménez, Katheryn Shea, Paula González, Carolina Porras, Greivin Fallas, and Ana Cecilia Rodríguez

923 The Organization of European Cancer Institute Pathobiology Working Group and its Support of European Biobanking Infrastructures for Translational Cancer Research
Peter H.J. Riegman, Bas W.D. de Jong, and Antonio Liembart-Bosch

927 Long-term Variation in Serum 25-Hydroxyvitamin D Concentration among Participants in the Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial
Jonathan N. Hofmann, Kai Yu, Ronald L. Horst, Richard B. Hayes, and Mark P. Purdue

932 Measuring Serum Melatonin in Epidemiologic Studies
Ann W. Hsing, Tamra E. Meyer, Shelley Niwa, Sabah M. Quraishi, and Lisa W. Chu

938 Reproducibility of Plasma and Urine Biomarkers among Premenopausal and Postmenopausal Women from the Nurses’ Health Studies

947 Intra-Person Variation of Urinary Biomarkers of Oxidative Stress and Inflammation
Xiaoyan Wu, Hui Cai, Yong-Bing Xiang, Qiuyin Cai, Gong Yang, Dake Liu, Stephanie Sanchez, Wei Zheng, Ginger Milne, and Xiao-Ou Shu

953 Urine Collection and Processing for Protein Biomarker Discovery and Quantification
C. Eric Thomas, Wade Sexton, Kaaron Benson, Rebecca Sutphen, and John Koomen

960 Pooling Biomarker Data from Different Studies of Disease Risk, with a Focus on Endogenous Hormones
Timothy J. Key, Paul N. Appleby, Naomi E. Allen, and Gillian K. Reeves

966 Molecular Pathology in Epidemiologic Studies: A Primer on Key Considerations
Mark E. Sherman, Will Howatt, Fiona M. Blows, Paul Pharoah, Stephen M. Hewitt, andMontserrat Garcia-Closas

973 Simultaneous Recovery of DNA and RNA from Formalin-Fixed Paraffin-Embedded Tissue and Application in Epidemiologic Studies
Wen-Yi Huang, Timothy M. Sheehy, Lee E. Moore, Ann W. Hsing, and Mark P. Purdue
<table>
<thead>
<tr>
<th>RESEARCH ARTICLES</th>
</tr>
</thead>
</table>
| **Comparison of mRNA and Protein Measures of Cytokines following Vaccination with Human Papillomavirus-16 L1 Virus-like Particles**  
Fatma M. Shebl, Ligia A. Pinto, Alfonso García-Piñeres, Richard Lempicki, Marcus Williams, Clayton Harro, and Allan Hildesheim |
| **Analytic Variability in Immunohistochemistry Biomarker Studies**  
Valsamo K. Anagnostou, Allison W. Welsh, Jennifer M. Giltnane, Summar Siddiqui, Camil Liceaga, Mark Gustavson, Konstantinos N. Syrigos, Jill L. Reiter, and David L. Rimm |
| **Assessment of Automated Image Analysis of Breast Cancer Tissue Microarrays for Epidemiologic Studies**  
Kelly L. Bolton, Montserrat Garcia-Closas, Ruth M. Pfeiffer, Maire A. Duggan, William J. Howat, Stephen M. Hewitt, Xiaohong R. Yang, Robert Cornelison, Sarah L. Anzick, Paul Meltzer, Sean Davis, Petra Lenz, Jonine D. Figueroa, Paul D.P. Pharoah, and Mark E. Sherman |
| **Standards Affecting the Consistency of Gene Expression Arrays in Clinical Applications**  
Steven A. Enkemann |
| **Standard Preanalytical Coding for Biospecimens: Defining the Sample PREanalytical Code**  
| **Custodianship as an Ethical Framework for Biospecimen-Based Research**  
Rihab Yassin, Nicole Lockhart, Mariana González del Riego, Karen Pitt, Jeffrey W. Thomas, Linda Weiss, and Carolyn Compton |
| **Tobacco Smoke Exposure in Nonsmoking Hospitality Workers before and after a State Smoking Ban**  
Joni A. Jensen, Barbara A. Schillo, Molly M. Moilanen, Bruce R. Lindgren, Sharon Murphy, Steven Carmella, Stephen S. Hecht, and Dorothy K. Hatsukami |
| **Effects of Calcium and Vitamin D on MLH1 and MSH2 Expression in Rectal Mucosa of Sporadic Colorectal Adenoma Patients**  
Eduard Sidelnikov, Roberd M. Bostick, W. Dana Flanders, Qi Long, Veronica Fedirko, Aasma Shaukat, Carrie R. Daniel, and Robin E. Rutherford |
| **Analgesic Use and Sex Steroid Hormone Concentrations in Postmenopausal Women**  
Margaret A. Gates, Shelley S. Tworoger, A. Heather Eliassen, Stacey A. Missmer, and Susan E. Hankinson |
| **Fetal Growth, Preterm Birth, Neonatal Stress and Risk for CNS Tumors in Children: A Nordic Population- and Register-Based Case-Control Study**  
Lisbeth Samso Schmidt, Joachim Schüz, Päivi Lähteenmäki, Catarina Träger, Tore Stokland, Göran Gustafson, Lisa Hjalgrim, Astrid Sehested, Christoffer Johansen, and Kjeld Schmiegelow |
| **Subtype-Specific Risk of Testicular Tumors among Immigrants and Their Descendants in Sweden, 1960 to 2007**  
Omid Beiki, Fredrik Granath, Peter Allebeck, Olof Akre, and Tahereh Moradi |
| **Risk for Renal Cell Carcinoma in Chronic Hepatitis C Infection**  
Stuart C. Gordon, Dilip Moonka, Kimberly A. Brown, Craig Rogers, Mary Ann Y. Huang, Neal Bhatt, and Lois Lamerato |
| **European Ancestry Is Positively Associated with Breast Cancer Risk in Mexican Women**  
Laura Fejerman, Isabelle Romieu, Esther M. John, Eduardo Lazcano-Ponce, Scott Huntsman, Kenneth B. Beckman, Eliseo J. Pérez-Stable, Esteban González Burchard, Elad Ziv, and Gabriela Torres-Mejía |
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1132</td>
<td>Assessing the Amount of Unscheduled Screening (&quot;Contamination&quot;) in the Control Arm of the UK &quot;Age&quot; Trial&lt;br&gt;Nicola Kingston, Iyamde Thomas, Louise Johns, and Sue Moss for the Trial Management Group</td>
</tr>
<tr>
<td>1089</td>
<td>Manganese Superoxide Dismutase Polymorphism and Risk of Gastric Lesions, and Its Effects on Chemoprevention in a Chinese Population&lt;br&gt;Hua-kang Tu, Kai-feng Pan, Yang Zhang, Wen-qing Li, Lian Zhang, Jun-ling Ma, Ji-you Li, and Wei-chen You</td>
</tr>
<tr>
<td>1103</td>
<td>Longitudinal Predictors of Nonadherence to Maintenance of Mammography&lt;br&gt;Jennifer M. Guirsch, Jo Anne Earp, Noel T. Brewer, and Barbara K. Rimer</td>
</tr>
<tr>
<td>1112</td>
<td>Mammographic Density Change with 1 Year of Aerobic Exercise among Postmenopausal Women: A Randomized Controlled Trial&lt;br&gt;Christy G. Woolcott, Kerry S. Courneya, Norman F. Boyd, Martin J. Yaffe, Tim Terry, Anne McTiernan, Rollin Brant, Rachel Ballard-Barbash, Melinda L. Irwin, Charlotte A. Jones, Sony Brar, Kristin L. Campbell, Margareet L. McNeely, Kristina H. Karvinen, and Christine M. Friedenreich</td>
</tr>
<tr>
<td>1122</td>
<td>Temporal Trends in Geographic Disparities in Small-Area Breast Cancer Incidence and Mortality, 1988 to 2005&lt;br&gt;Mario Schootman, Min Lian, Anjali D. Deshpande, Elizabeth A. Baker, Sandi L. Pruitt, Rebecca Aft, and Donna B. Jeffe</td>
</tr>
<tr>
<td>1137</td>
<td>The Gastric Cardia Is Not a Target for Human Papillomavirus–Induced Carcinogenesis&lt;br&gt;Jill Koshiol, Wen-Qiang Wei, Aimee R. Kreimer, Jian-Song Ren, Patti Gravitt, Wen Chen, Esther Kim, Christian C. Abnet, Yu Zhang, Farin Kamangar, Dong-Mei Lin, Guo-Qing Wang, Mark J. Roth, Zhi-Wei Dong, Philip R. Taylor, You-Lin Qiao, and Sanford M. Dawsey</td>
</tr>
<tr>
<td>1140</td>
<td>A Genome-Wide Association Study of Prognosis in Breast Cancer&lt;br&gt;Elizabeth M. Azzato, Paul D.P. Pharoah, Patricia Harrington, Douglas F. Easton, David Greenberg, Neil E. Caporaso, Stephen J. Chanock, Robert N. Hoover, Gilles Thomas, David J. Hunter, and Peter Kraft</td>
</tr>
</tbody>
</table>

**CORRECTIONS**

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1144</td>
<td>Correction: Exposure to Smoking Imagery in the Movies and Experimenting with Cigarettes among Mexican Origin Youth</td>
</tr>
<tr>
<td>1145</td>
<td>Correction: Cognitive Susceptibility to Smoking: Two Paths to Experimenting among Mexican Origin Youth</td>
</tr>
<tr>
<td>1145</td>
<td>Correction: A Rigorous and Comprehensive Validation: Common Genetic Variations and Lung Cancer</td>
</tr>
</tbody>
</table>