This special issue of Cancer Genetics, on the progress and promise of epigenetics for diagnosis and therapy in cancer, highlights the diverse and ever-expanding role of epigenetics in cancer pathogenesis. The invited reviews and original articles that follow provide insight into how mechanisms ranging from DNA and histone modification to non-coding RNAs and metabolism are mutated or misregulated in cancer.

For the full aims & scope, visit: cancergeneticsjournal.org
Review articles

5-hydroxymethylcytosine in cancer: significance in diagnosis and therapy
Aparna Vasanthakumar, Lucy A. Godley

The Cancer COMPASS: Navigating the functions of MLL complexes in cancer
David J. Ford, Andrew K. Dingwall

Disturbing the histone code in leukemia: translocations and mutations affecting histone methyl transferases
Martin Chopra, Stefan K. Bohlander

The Roles of Chromatin-Remodelers and Epigenetic Modifiers in Kidney Cancer
Lili Liao, Joseph R. Testa, Haifeng Yang

The pathological role and prognostic impact of miR-181 in acute myeloid leukemia
Hengyou Weng, Kumar Lal, Frank F. Yang, Jianjun Chen

A Role for Epigenetics in the Formation of Chromosome Translocations in Acute Leukemia
Heidi J. Gill Super

Epigenetic changes in BRCA1-mutated familial breast cancer
Bradley Downs, San Ming Wang

Inhibition of the Mevalonate Pathway Affects Epigenetic Regulation in Cancer Cells
Heidrun Karlic, Roman Thaler, Christopher Gerner, Thomas Grunt, Katharina Proestling, Florian Haider, Franz Varga

Original research articles

DNA Methylation and RNA Expression Profiles in Lung Adenocarcinomas of Never-Smokers
Aaron S. Mansfield, Liang Wang, Julie M. Cunningham, Jin Jen, Christopher P. Kolbert, Zhifu Sun, Ping Yang

Promoter hypermethylation of membrane type 3 matrix metalloproteinase (MT3-MMP, MMP16) is associated with cell migration in colorectal adenocarcinoma
Ji Wook Moon, Jong-Ho Choi, Soo Kyung Lee, Yong Woo Lee, Jung Ok Lee, Naml Kim, Hye Jeong Lee, Jung Seon Seo, Jin Kim, Hyeon Soo Kim, Gi Jin Kim, SunHwa Park

Hypermethylation of CpG dinucleotide in epidermal growth factor receptor codon 790: implications for a mutational hotspot leading to the T790M mutation in non-small-cell lung cancer
Akiko Fujii, Taishi Harada, Eiji Iwama, Keiichi Ota, Kazuto Furuyama, Kayo Ijichi, Tatsuro Okamoto, Isamu Okamoto, Koichi Takayama, Yoichi Nakanishi

WEE1 is a validated target of the microRNA miR-17-92 cluster in leukemia
Sonia Brockway, Nancy J. Zeleznik-Le

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