The Newsletter of PhenoPath

phenomena™

Laboratories ● 1-888-92-PHENO ● www.phenopath.com ● Spring 2013 ● Volume 16 No.1

PhenoPath at the USCAP

March 2-8, 2013, Baltimore, Maryland

Attendees of the United States & Canadian Academy of Pathology (USCAP) annual meeting might be interested in the following presentations by PhenoPath pathologists:

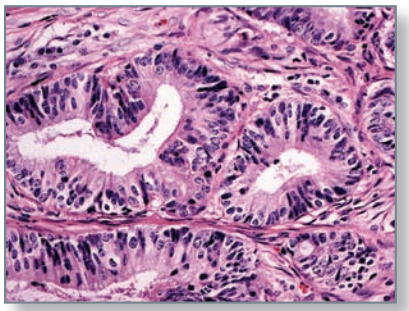
Sunday, March 3, 2013 from 7:30-10:30 PM, CC Ballroom 2
International Society of Breast Pathology Companion Meeting
"Critical Questions Regarding Biomarkers of Breast Cancer", Presented by Allen M. Gown, MD

Monday, March 4, 2013 at 9:15 AM, Room CC 309
Platform Presentation - Neuropathology - Section G1
"Somatostain Receptor 2A: A Novel Immunohistochemical Marker of Meningioma" (abstract #1725), Presented by Allen M. Gown, MD

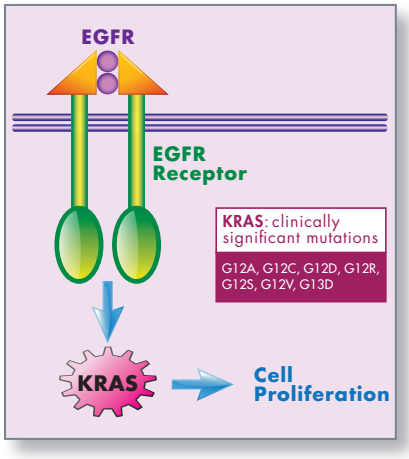
Tuesday, March 5, 2013 at 2:30 PM, Room CC Ballroom 4
Platform Presentation - Gynecologic & Obstetrics Pathology - Section B
"The Müllerian Marker PAX-8 Is Expressed in Peritoneal Mesothelial Proliferations in Women with and without Gynecologic Malignancies" (abstract #1176), Presented by Patricia Kandalaft, MD

Thursday, March 7, 2013 from 1:00-4:30 PM
Short Course #35
"Diagnostic Immunohistochemistry: Plagued with Potential Problems but Pregnant with Possibilities", Presented by Allen M. Gown, MD

Monday, March 4 through Wednesday, March 6 - Exhibit Hall, Booth 740
Visit the PhenoPath booth in the Exhibit Hall and meet our staff and pathologists.



Colorectal adenocarcinoma



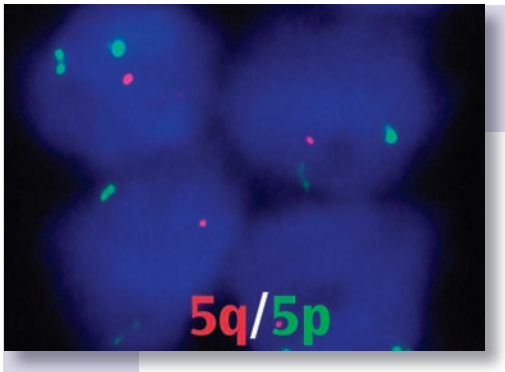
KRAS

PhenoPath Laboratories is pleased to announce that we are offering the **FDA-approved Therascreen® KRAS mutation in vitro diagnostic (IVD) test for colorectal adenocarcinoma**. The Therascreen® KRAS mutation assay is a real-time, allele-specific PCR assay that uses Scorpian ARMS® technology to detect the most common KRAS mutations that involve codons 12 and 13. **This is the only FDA-approved assay for KRAS mutations in colorectal adenocarcinoma and as the sole FDA-approved KRAS mutation test available, it is a requirement for determining patient eligibility for the anti-EGFR antibody drug cetuximab (Erbitux®).** Additionally, KRAS mutational status determination is a requirement under current National Comprehensive Cancer Network (NCCN) Practice Guidelines™ for colorectal adenocarcinoma.

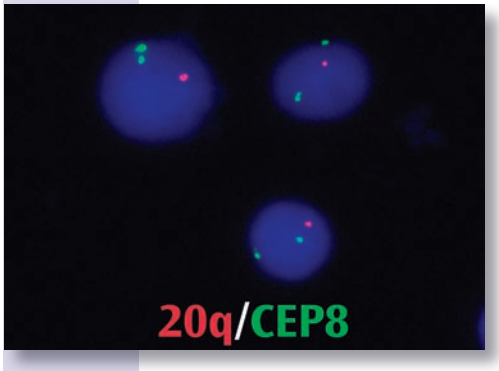
The KRAS oncogene is a key signal transduction molecule that is downstream of the EGFR receptor tyrosine kinase. The codon 12 and 13 mutations tested for by the Therascreen® KRAS mutation assay result in a constitutively activated KRAS molecule that can no longer be negatively regulated by EGFR antibody blockade. In clinical trials, patients with tumors negative for a KRAS mutation (wild-type KRAS) were found to be responsive to anti-EGFR antibody therapy (Erbitux®). In contrast, patients with KRAS mutation positive tumors were found to be nonresponsive to such therapy. Therefore, KRAS mutation status is required to determine patient eligibility for Erbitux® therapy.

Please contact us at lab@phenopath.com should you have any questions regarding KRAS testing in colorectal adenocarcinoma.

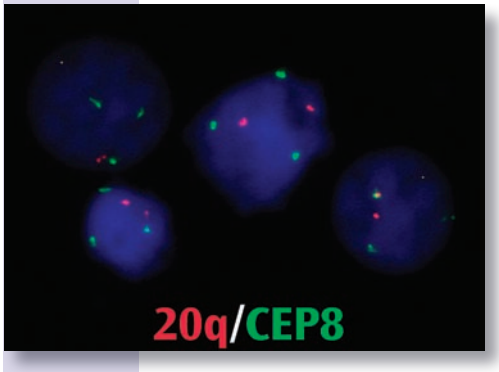
References
1. *Karapetis CS et al. N Engl J Med 2008 Oct 23:359(17):1757-65*
2. *Lievre A et al. J Clin Oncol 2008 Jan 20;26(3):374-9*
3. *Amado RG et al. J Clin Oncol 2008 Apr 1;26(10):1626-34*



5q deletion



20q deletion



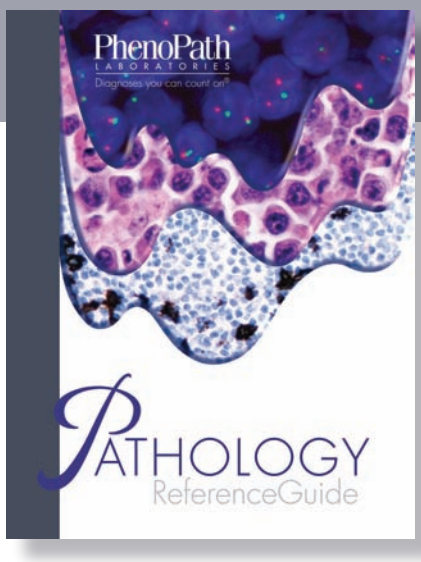
Trisomy 8

MDS FISH

PhenoPath Laboratories offers myelodysplastic syndrome (MDS) fluorescence in situ hybridization (FISH) testing as an aid in the diagnosis and clinical management of MDS patients. MDS represents a heterogeneous group of clonal myeloid stem cell disorders that are characterized not only by specific histologic changes typically seen in the bone marrow and peripheral blood, but also by specific chromosome abnormalities. The MDS FISH panel offered at PhenoPath covers the most common MDS-associated chromosomal abnormalities and specifically detects the following: EGR1/5q31 deletion (5q-), monosomy 5, deletion 7q31, monosomy 7, deletion of 20q12, and trisomy 8. The different chromosomal abnormalities have prognostic significance and generally can be divided into three prognostic groups: favorable, intermediate, and poor. Tumors manifesting deletion of 5q31, 20q12, and lacking any other genetic abnormalities constitute the favorable group; furthermore, patients with tumors manifesting 5q loss are eligible for Revlimid® (lenalidomide) therapy. Tumors with trisomy 8 and deletion 7q31 constitute the intermediate prognosis group and those with monosomy 5 or 7 represent a poor prognostic group.

For further information about PhenoPath's FISH testing for MDS and other clinical settings, please contact us at lab@phenopath.com.

1.Slovak ML et al. International Working Group on MDS Cytogenetics: October 2007 meeting report. Leukemia Research 2008 Sep; 32(9):1329-1332
2.Cheson BD et al. Report of an international working group to standardize response criteria for myelodysplastic syndromes. Blood 2000 Dec; 96(12): 3671-3674
3.Maes B et al. Application of the international prognostic scoring system for myelodysplastic syndromes. Annals of Oncology 1999 Jul; 10(7):825-829
4.Greenberg P et al. International scoring system for evaluating prognosis in myelodysplastic syndromes. Blood 1997 Mar; 89(6):2079-2088



PATHOLOGY Reference Guide

PhenoPath has released the much-awaited 7th Edition of its **Pathology Reference Guide**, a comprehensive overview of all the immunohistochemistry, flow cytometry, and molecular (PCR-based and FISH-based) testing offered by PhenoPath.

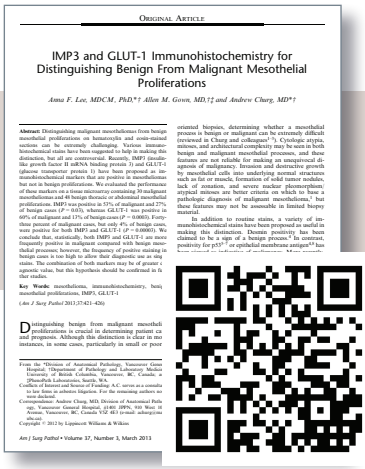
The current guide, completely revised and updated, further expands upon the mission of the first Pathology Reference Guide in 1998: education of, and collaboration with, our physician clients to foster the optimal delivery of quality care through accurate diagnoses.

The 106-page Pathology Reference Guide covers general consultation areas (e.g., carcinomas of unknown primary, small blue round cell tumors), organ-restricted analyses (e.g., breast carcinoma markers and lung carcinoma subclassification), as well as other diagnostic pathology (e.g., germ cell tumors and amyloid analysis).

For information on obtaining a copy of the **Pathology Reference Guide**, contact lab@phenopath.com.

RECENT PUBLICATIONS

Performance of case based research, and publication in peer reviewed journals, is part of our mission at PhenoPath. This research informs our clinical case analyses and keeps PhenoPath pathologists at the cutting edge of new scientific developments with applications to diagnostic pathology. The following represent some of our recent publications, most of which come from collaborative efforts with pathologists and laboratories around the United States and the world.



ORIGINAL ARTICLE

IMP3 and GLUT-1 Immunohistochemistry for Distinguishing Benign From Malignant Mesothelial Proliferations

Anna F. Lee, MDCM, PhD,† Allen M. Gown, MD,†‡ and Andrew Churg, MD*†*

Lee et al. ***IMP3 and GLUT-1 immunohistochemistry for distinguishing benign from malignant mesothelial proliferations.*** Am J Surg Pathol. 2013 Mar;37(3):421-6

The combination of two markers, IMP3 and glucose transporter protein 1 (GLUT-1), is demonstrated to be a highly specific marker of malignant mesothelioma, distinguishing it from reactive mesothelial processes.

ORIGINAL ARTICLE

Carcinoma of the Collecting Ducts of Bellini and Renal Medullary Carcinoma

Clinicopathologic Analysis of 52 Cases of Rare Aggressive Subtypes of Renal Cell Carcinoma With a Focus on Their Interrelationship

Gupta R et al. ***Carcinoma of the collecting ducts of Bellini and renal medullary carcinoma: clinicopathologic analysis of 52 cases of rare aggressive subtypes of renal cell carcinoma with a focus on their interrelationship.*** Am J Surg Pathol. 2012 Sep;36(9):1265-78

In this clinicopathologic study of 39 cases of the aggressive, relatively rare variant of renal cancer, carcinoma of the collecting ducts of Bellini, the immunophenotype was studied and compared with that of another aggressive and relatively rare renal tumor, medullary carcinoma.

Breast Cancer Res Treat (2012) 131:413–424
DOI 10.1007/s10549-011-1416-3

PRECLINICAL STUDY

Routine pathologic parameters can predict Oncotype DX™ recurrence scores in subsets of ER positive patients: who does not always need testing?

K. H. Allison · P. L. Kandalaft · C. M. Sitlani · S. M. Dintzis · A. M. Gown

Allison KH et al. ***Routine pathologic parameters can predict Oncotype DX recurrence scores in subsets of ER positive patients: who does not always need testing?*** Breast Cancer Res Treat. 2012 Jan;131(2):413-24

A series of 173 breast cancer cases were identified in which Oncotype Dx analysis had been performed. Results were compared with an immunophenotypic characterization of the same tumors using antibodies to ER, PR, HER2, the Ki67 antigen, cyclin DA, bcl-2, podoplanin, and p53.

Correspondence

Concordance Between Human Epidermal Growth Factor Receptor 2 Testing by Reverse Transcriptase Polymerase Chain Reaction and Fluorescent In Situ Hybridization

Gown AM et al. ***Concordance between human epidermal growth factor receptor 2 testing by reverse transcriptase polymerase chain reaction and fluorescent in situ hybridization.*** J Clin Oncol. 2012 May 10;30(14):1726-7

This is a critique of a paper previously published in the *Journal of Clinical Onology*, in which the investigators alleged that there were a significant number of false negative HER2 RT-PCR results based on the Oncotype Dx assay, when compared with HER2 fluorescence in situ hybridization (FISH).

Scan the above QR codes using your smart phone to access these publications.

PhenoPath
LABORATORIES
Diagnoses you can count on®

551 North 34th Street, Suite 100
Seattle, Washington, 98103
P (206) 374-9000
F (206) 374-9009

Kojo S. J. Elenitoba-Johnson, MD

University of Michigan
Department of Pathology

FEATURED
At Our Spring Quarterly Conference

PhenoPath Laboratories, May 9, 2013, 6:30 PM (light dinner), 7:30 PM (talk)

Kojo S.J. Elenitoba-Johnson, MD, of the University of Michigan Medical School, presents "***Novel insights of the pathogenesis of malignant lymphomas from next generation sequencing***" at the PhenoPath Spring Conference, Thursday, May 9 at 7:30 PM. Dr. Elenitoba-Johnson will also be giving a daytime lecture at noon the same day entitled, "***Prospects and promise for the practice of personalized medicine by pathologists***."

Dr. Kojo Elenitoba-Johnson received his M.D. from the College of Medicine, Univ. of Lagos, Nigeria. He completed AP/CP residency training in 1995 at Brown Univ. School of Medicine, Providence, RI, serving as Chief Resident (1992-1994). Following residency, he completed a Hematopathology Fellowship at the NCI/NIH in Bethesda, MD. Dr. Elenitoba-Johnson is board certified in AP/CP, Hematopathology, and Molecular Genetic Pathology. He was appointed as Assistant Professor of Anatomic Pathology at the Univ. of Utah Health Sciences Center (1997) and promoted to the rank of Associate Professor in 2003. He served as Assistant Director of Hematopathology, Univ. of Utah (1997-2006), and as Medical Director of the Molecular Hematopathology Section (1997-2006) and the Proteomics Section (2001-2006) at ARUP Laboratories, Salt Lake City. Dr. Elenitoba-Johnson is now Professor, Dept. of Pathology, Univ. of Michigan, Ann Arbor, and serves as the Director of the Division of Translational Pathology, the Molecular Diagnostics Laboratory, and the Molecular Genetic Pathology Fellowship.

Dr. Elenitoba-Johnson has been the recipient of numerous awards including the American Soc. of Investigative Pathology Scholarship, the Outstanding Graduating Resident Award from Brown University, the Society for Hematopathology Pathologist in Training Award, the Outstanding Teaching Award in Anatomic Pathology, University of Utah, and the Ramzi Cotran Young Investigator Award (USCAP). Dr. Elenitoba-Johnson's research interests include lymphoma pathogenesis and progression, mass spectrometry-based proteomic profiling of lymphomas, and novel molecular technologies for the diagnosis of hematopoietic neoplasms. He is an excellent, sought-after speaker and has published extensively with over 120 peer-reviewed scientific articles and book chapters. We look forward to Dr. Elenitoba-Johnson's visit!