

SAMPLE IMMUNOHISTOCHEMISTRY REPORT

DIAGNOSIS:

ABC Hospital A07-12345

Transverse colon: Adenocarcinoma demonstrating **loss** of expression of mismatch repair gene products associated with microsatellite instability.

COMMENTS:

Microsatellite instability (MSI) due to defective mismatch repair genes has been reported in a subset of sporadic colorectal adenocarcinomas, as well as in adenocarcinomas arising in patients with Lynch syndrome (hereditary non-polyposis colorectal cancer, or HNPCC). As a consequence of this alteration, these adenocarcinomas are all associated with high-level 'microsatellite instability' (MSI), which is closely associated with loss of expression of one or more of the mismatch repair (MMR) enzymes known as MLH1, MSH2, MSH6, and PMS2. Molecular testing for MSI or immunohistochemical studies looking for loss of expression of the MMR enzymes are thus effective methods of screening for this unique subset of colorectal adenocarcinomas. IHC, particularly with the use of antibodies to all four major MMR enzymes, can identify MSI adenocarcinomas with extremely high sensitivity and specificity. Furthermore, IHC analysis of the four MMR proteins can provide a highly sensitive strategy for the identification of MMR gene mutation-carrying, early-onset colorectal adenocarcinoma patients, many of whom might be missed by using, e.g., the Amsterdam Criteria alone. IHC analysis has several advantages over MSI testing, as the latter is more difficult to perform, and does not provide gene-specific information. Identification of this important subset of adenocarcinomas is important, as published data suggest that sporadic colorectal adenocarcinomas with MSI have a significantly better prognosis compared with those with intact MMR. In addition, several studies have suggested that MSI adenocarcinomas may be resistant to 5-FU-based chemotherapy.

REFERENCE:

Ruczkievicz AR and Jass JR. Pathol Case Rev 9:163-72, 2004; Popat S et al J Clin Oncol 23:609-18, 2005; Southey MC et al., J Clin Oncol 23:6524-32, 2005.

SPECIMEN INFORMATION:

A1 = A07-12345, 1 block

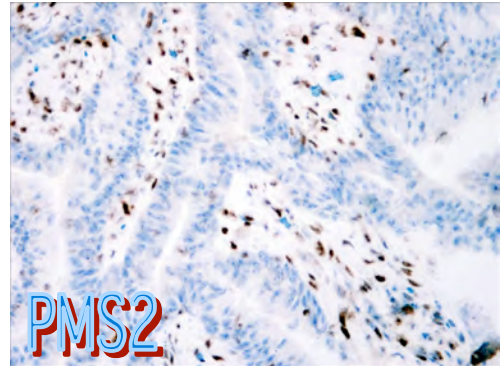
RECEIVED FOR THE FOLLOWING:

Microsatellite instability testing

IMMUNOHISTOCHEMICAL FINDINGS:

Tissue sections (along with appropriate positive control) are incubated with the following antibody. Localization is via a biotin-free, polymer-based immunoperoxidase technique according to an optimized protocol. The controls are reviewed for appropriate positive and negative reactivity and found to be satisfactory.

Block A07-12345 (Surgery Date: 01/05/2007) - Transverse colon (PP2007XXXXX A1)



Target population: Tumor

Antibodies To	Clone	Result
PMS2	A16-4	Loss of expression
MLH-1	G168-15	Loss of expression
MSH2	FE11	No loss of expression
MSH6	44	No loss of expression

*****ELECTRONICALLY SIGNED*****

Patricia Kandalraft, M.D.
Pathologist

In compliance with CMS regulations, the pathologist's signature on this report indicates that the case has been personally reviewed, and the diagnosis made or confirmed by the Pathologist.

NOTE: Some of the tests reported here may have been developed and performance characteristics determined by PhenoPath Laboratories. They have not been cleared or approved by the U.S. Food and Drug Administration (FDA). However, the FDA has determined that such clearance or approval is not necessary. Pursuant to the requirements of CLIA, this laboratory has established and verified the accuracy and precision of all tests, and additional information about these tests is available upon request. PhenoPath Laboratories is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA) as qualified to perform high complexity clinical laboratory testing.