

CONFIDENTIAL

COLARIS[®]
MLH1, MSH2, MSH6, EPCAM Analysis Results

PHYSICIAN	SPECIMEN	PATIENT
John Smith, MD Comprehensive Medical Center 1100 Grand Ave Away, GA 12345	Specimen: Blood Draw date: Aug 01, 2010 Accession date: Aug 02, 2010 Report Date: Aug 12, 2010	Name: Doe, Jane Date of Birth: April 1, 1492 Patient ID: 000000 Gender: Female Accession #: 00000000-BLD Requisition #: 000000

Test Results and Interpretation

NO MUTATION DETECTED

<u>Test Performed:</u>	<u>Result:</u>	<u>Interpretation:</u>
<i>EPCAM</i> rearrangement analysis	No Mutation Detected	No Mutation Detected
<i>MLH1</i> sequencing rearrangement analysis	No Mutation Detected No Mutation Detected	No Mutation Detected No Mutation Detected
<i>MSH2</i> sequencing rearrangement analysis	No Mutation Detected No Mutation Detected	No Mutation Detected No Mutation Detected
<i>MSH6</i> sequencing rearrangement analysis	No Mutation Detected No Mutation Detected	No Mutation Detected No Mutation Detected

Analysis includes sequencing of all exons and adjacent intronic regions and large rearrangement (LR) testing of the *MLH1*, *MSH2*, and *MSH6* genes and LR testing of the *EPCAM* gene. LR testing is performed by quantitative multiplex PCR and multiplex ligation-dependent probe amplification (MLPA) for *MLH1* and *MSH2* and MLPA for *MSH6* and the 3' region of *EPCAM*. MLPA reagents used for this test have not been approved or cleared by the FDA. However, Myriad Genetic Laboratories, Inc. has validated the performance characteristics of this test. Rare interfering variants may exist which could lead to false positive or negative results. Testing at Myriad found that LR mutations account for ~17% of *MLH1* and ~37% of *MSH2* mutations. The classification and interpretation of all variants identified in this assay reflect the current state of scientific understanding at the time this report was issued. The classification and interpretation of such variants may change as new information becomes available.

It is our understanding that this patient was identified for testing due to a personal or family history suggestive of Lynch syndrome (hereditary non-polyposis colorectal cancer, HNPCC). No deleterious mutation was found in *MLH1*, *MSH2* or *MSH6* by full sequence and rearrangement testing, and no deleterious mutation was found in the 3'UTR of the *EPCAM* gene by rearrangement testing. Sequence analysis identifies mutations in all 19 exons and ~560 non-coding base pairs of *MLH1*, all 16 exons and ~480 non-coding base pairs of *MSH2*, and all 10 exons and ~ 300 non-coding base pairs of *MSH6*. Quantitative multiplex PCR analysis and/or MLPA identify duplications and deletions involving one or more exons of *MLH1*, *MSH2*, *MSH6* and *EPCAM*. There are rare genetic abnormalities in these genes that this test will not detect, and other genes, such as *PMS2*, may be responsible for Lynch syndrome. This result, however, rules out the majority of disease associated abnormalities. If this individual has never had a Lynch Syndrome related cancer, it is recommended that testing an affected relative be considered to help clarify the clinical significance of this negative test result.

Please contact Myriad Professional Support at 1-800-469-7423 to discuss any questions regarding this result.

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These test results should only be used in conjunction with the patient's clinical history and any previous analysis of appropriate family members. It is strongly recommended that these test results be communicated to the patient in a setting that includes appropriate counseling. The accompanying Technical Specifications summary describes the analysis, method, performance characteristics, nomenclature, and interpretive criteria of this test. This test may be considered investigational by some states. This test and its performance characteristics were determined by Myriad Genetic Laboratories. It has not been reviewed by the U.S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary.