Name: Paul M Morrison | DOB: 3/1/1978 | MRN: 00584833 | PCP: Christopher Ryan Anderson, MD | Legal Name: Paul M Morrison

IGH Somatic Hypermutation Analysis, B-Cell Chronic Lymphocytic Leukemia

Collected on August 11, 2021 10:11 AM

Lab tests - Blood (Blood, Venous)

Results

BCLL Result

Value
see interpretation

Specimen Type

Value
Blood

Final Diagnosis

Value
SEE COMMENTS

Peripheral blood, IGH somatic hypermutation analysis:

A mutated IGH V rearrangement was identified. The level of mutation identified was 6.8%.

The IGH V allele identified was 3-7*01.

Somatic hypermutation of the immunoglobulin heavy chain gene variable region (IGH-V) status is a recognized prognostic marker in chronic lymphocytic leukemia. Mutated CLL is defined by the presence of >2% IGH-V somatic mutation (or <98% identity to the closest germline sequence) and is independently associated with a relatively favorable prognosis. In contrast, unmutated IGH-V status, defined as <=2% somatic mutation (or >=98% germline sequence identity) is associated with relatively adverse prognosis (Oscier D et al, 2002, 12149195). Correlation of these results with clinical, pathologic and other pertinent laboratory data is required for final interpretation.

Signing Pathologist: Min Shi, M.D., Ph.D.

----------ADDITIONAL INFORMATION----------
Method Summary - IGH V-region (IGHV) somatic mutation analysis: DNA is extracted and IGH gene rearrangements are amplified by PCR method using leader and/or FR1 forward primers. Next generation sequencing of the PCR product clonal IGH variable (IGHV) region is performed. Sequences of functional IGHV rearrangements are compared to a germline IGH sequence database to determine the closest IGHV gene exon and percent nucleobase identity. Mutated IGHV status is assigned when the analyzed clonal sequence is greater than 2% different from the germline reference and unmutated status is defined as 2% or less deviation from the reference.
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

Test Performed by:
Mayo Clinic Laboratories - Rochester Main Campus
200 First
Street SW, Rochester, MN 55905
Lab Director: William G. Morice M.D. Ph.D.; CLIA# 24D0404292

Authorizing provider: Hani Alkhatib
Collection date: August 11, 2021 10:11 AM

Result date: August 19, 2021 3:27 PM
Result status: Final
Resulting lab:
MAYO CLINIC LABORATORIES
3050 Superior Drive NW
ROCHESTER MN 55901
507-266-5700
24D1040592 (CLIA #)

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Name: Paul M Morrison | DOB: 3/1/1978 | MRN: 00584833 | PCP: Christopher Ryan Anderson, MD | Legal Name: Paul M Morrison

Chronic Lymphocytic Leukemia, FISH

Collected on August 11, 2021 10:11 AM

Results

Result

Value

SEE COMMENTS

Testing is complete. Final report has been sent to the referring laboratory.
Note: There may be a delay of up to 2 hours before report is available to view in Mayo Access.

Test Performed by:
Quest Diagnostics/Nichols Institute
33608 Ortega Highway
San Juan Capistrano, CA 92675-2042

Scan 1

Authorizing provider: Hani Alkhatib
Collection date: August 11, 2021 10:11 AM
Specimens: Blood (Blood, Venous)
Result date: August 19, 2021 11:19 AM
Result status: Final (Edited)
Resulting lab:
MAYO CLINIC LABORATORIES
3050 Superior Drive NW
ROCHESTER MN 55901
507-266-5700
24D1040592 (CLIA #)

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X ALIGN HERE

SEND TO: MAYO CLIN LABS
3050 SUPERIOR DR NW
ATTN REFERRALS
ROCHESTER, MN 55901

Quest Diagnostics
Nichols Institute

Quest Diagnostics, Incorporated
33608 Ortega Hwy., San Juan Capistrano, CA 92675
CLIENT SERVICES - (800) 553-5445
Director: Irina Maramica, M.D., Ph.D.

PATIENT NAME				PATIENT ID NO.	DATE	TIME
MORRISON, PAUL M				G711046931	COLLECTED 08/11/2021	10:11
ACCESSION NO.	AGE	SEX	SAMPLE ID NO.	OTHER ID NO.	RECEIVED 08/13/2021	18:31
27662038	43	MALE	10239782631	NG	REPORTED 08/17/2021	16:24
REMARKS			REFERRING PHYSICIAN		STATUS DUPLICATE	
			ALKHATIB HANI			

TEST	RESULT (* = OUT OF RANGE)	UNITS	REFERENCE RANGE
FISH,B Cell CLL Panel	See Below		

Order ID: 21-219405

Specimen Type: Blood

Clinical Indication: FISH STUDY FOR ONCOLOGY

RESULT:
POSITIVE FISH RESULT for 13q14.3 DELETION ;

NEGATIVE FISH RESULT for TRISOMY 12 and DELETIONS of 6q, ATM and TP53

INTERPRETATION:
FISH analysis showed deletion of 13q14.3 in 78% of cells. The 13q14 deletion is a recurrent abnormality in chronic lymphocytic leukemia/small lymphocytic lymphoma (CLL/SLL), and also is seen in other hematologic neoplasms. In CLL/SLL, 13q14.3 as the sole abnormality has a favorable prognosis; however, metaphase chromosome analysis is required to classify this deletion as the sole cytogenetic abnormality.

Please expect the result of any other concurrent test in a separate report.

RECOMMENDATIONS:
Correlation with a chromosome result as well as other clinical and laboratory findings is recommended. Periodic monitoring may be useful in assessing remission/relapse status.

NOMENCLATURE:
nuc
ish(SEC63,MYB)x2[100],(ATMx2)[100],(D12Z3x2)[100],(DLEUx1,LAMP1x2)[78/100],(TP53x2)[100]

ASSAY INFORMATION:
Method: FISH (Digital Image Analysis: MetaSystems/Metafer)
Cells Counted: 300

This test will not detect other cytogenetic abnormalities that may have clinical significance. Fluorescence in-situ hybridization (FISH) was performed using the probes specific for chromosome regions 6q21/6q23 (SEC63,MYB), 11q22.3 (ATM), 12 centromere (D12Z3), 13q14 (DLEU), 13q34 (LAMP1), and 17p13.1 (TP53; p53) [MetaSystems].

The cutoff values for peripheral blood and bone marrow are, respectively: 6q21- (4%) (6%), 6q23- (4%) (3%), 6q- (4%) (5%), 11q- (6%) (4%), +12 (4%) (5%), 13q- (4%) (4%), -13 (4%) (3%), 17p- (5%) (5%).

This test was developed and its analytical performance characteristics have been determined by Quest Diagnostics Nichols Institute, San Juan Capistrano, CA. It has not been cleared or approved by the U.S. Food and Drug Administration. This assay has been validated pursuant to the CLIA regulations and is used for clinical purposes.

Arturo Anguiano, MD, FFACMG (800) NICHOLS-4307

Electronic Signature: 8/17/2021 6:52 PM