

Update Summary		
New Test Activation	1/6/2026	JAK2X - "JAK2 with reflex to NGS for ex12/CALR/MPL"
New Test Activation	12/9/2025	MITQN - "Drug Monitoring, Mitragynine (Kratom), Quant, Urine"
New Test Activation	12/9/2025	MVABM - "Mumps Virus Antibody IgM"
New Test Activation	12/2/2025	USBSP - "NPS Stimulants/Bath Salts Panel, Urine"
Update Existing Test	12/2/2025	BCAF - "Blood Culture, Acid-Fast Bacillus (AFB)"
Update Existing Test	12/8/2025	HPVRG - "HPV mRNA E6/E7, Rect w/Ref to Geno, 16, 18/45"
Update Existing Test	12/2/2025	KRBC - "Potassium - RBC"
Update Existing Test	12/8/2025	LACSF - "Lactic Acid, CSF"
Update Existing Test	12/1/2025	UPHEP - "Phenol Exposure, Urine"
Inactivate Test With Replacement	1/6/2026	MPNCP - "MPN Core Diagnostics Panel" replaced by FMPN - "Focused Myeloproliferative Neoplasm Panel"

New Test Activation

Effective Date	1/6/2026
Name	JAK2 with reflex to NGS for ex12/CALR/MPL
Code	JAK2X
CPT Code(s)	81270
Notes	New York DOH Approval Status: No

Specimen Requirements

Specimen Required	<i>Collect:</i> Whole Blood EDTA Lavender <i>Specimen Preparation:</i> Send 1.0 mL whole blood in a screw capped plastic vial. <i>Minimum Volume:</i> 0.50 mL <i>Transport Temperature:</i> Refrigerated
Alternate Specimen	Bone Marrow
Rejection Criteria	Serum, plasma, tissue, buccal brush or swab, grossly hemolyzed specimens
Stability	Room temperature: 3 days Refrigerated: 7 days Frozen: 30 days

Performing Information

Methodology	Targeted Next Generation Sequencing
Reference Range	See report
Performed Days	Monday - Friday
Turnaround Time	7 - 14 days
Performing Laboratory	Warde Medical Laboratory

Interface Information

Legacy Code	JAK2X		
Interface Order Code	3000924		
Result Code	Name	LOINC Code	AOE/Prompt
3000926	Specimen Source	31208-2	No
3000927	JAK2 V617F Mutation by PCR	43399-5	No
3000928	Percent of WBCs with V617F Mutation	53761-3	No
3000929	JAK2 V617F Mutation by NGS	43399-5	No
3000931	JAK2 Exon 12 Mutation	55300-8	No
3000932	CALR Exon 9 Mutation	77174-1	No
3000933	MPL Exon 10 Mutation	62947-7	No
3000934	CSF3R Mutation	92674-1	No
3000936	Variant 1 Information	48005-3	No
3000937	Variant 2 Information	48005-3	No
3000938	Interpretation	50398-7	No
3000939	Assay Info	8266-9	No



LABORATORY REPORT

QC ACCOUNT (WARDE)
300 W. TEXTILE
ANN ARBOR MI 48108

EXAMPLE, REPORT
WX0000000237 F 12/05/1988

Collected: 11/11/2025 14:18

Received: 11/11/2025 14:18

JAK2 with reflex to NGS for ex12/CALR/MPL

Test Name	Result	Flag	Ref-Ranges	Units	Site
Specimen Source	Whole Blood				WMRL
JAK2 V617F Mutation by PCR	Not detected				WMRL
Percent of WBCs with V617F Mutation	<0.1		<=0.1	%	WMRL
JAK2 V617F Mutation by NGS	Not detected				WMRL
JAK2 Exon 12 Mutation	Not detected				WMRL
CALR Exon 9 Mutation	Not detected				WMRL
MPL Exon 10 Mutation	Not detected				WMRL
CSF3R Mutation	Not detected				WMRL
Variant 1 Information	n/a				WMRL
Variant 2 Information	n/a				WMRL
Interpretation	SEEBELOW				WMRL
No mutations were detected in codon 617 or exon 12 of JAK2, exon 9 of CALR, exon 10 (codons 505 and 515) of MPL, or CSF3R (cytoplasmic tail truncations). Absence of mutations from these regions does not exclude the presence of a myeloproliferative neoplasm (MPN). Further evaluation for MPN could include BCR-ABL1 rearrangement or Myeloid NGS.					
Assay Info	SEEBELOW				WMRL
This assay utilizes quantitative polymerase chain reaction (qPCR) to detect and quantify the presence of JAK2 p.V617F mutation. If the sample is negative (or minimally positive) by PCR, Next Generation Sequencing (NGS) is performed to interrogate DNA from leukocytes for the presence of genomic alterations in exon 12 and exon 14 of JAK2, exon 9 of CALR, exon 10 of MPL (including codons 505 and 515), and exons 14 and 17 of CSF3R. The procedure targets specific loci through PCR enrichment, and the bioinformatics algorithm limits analysis to a discrete set of pathogenic mutations classified in the literature as definitional to diagnosis of myeloproliferative neoplasms. A complete list of variants reportable by this assay can be found on the Warde website (https://wardelab.com/resources/forms).					
DNA was aligned to GRCh37 (hg19) for analysis. The transcripts IDs used as reference sequences are NM004972.3 (JAK2), NM_004343.3 (CALR), NM_005373.3 (MPL), and NM_000760.4 (CSF3R).					
The lower limit for mutation detection in NGS is approximately 5% variant allele fraction by read proportion (VAF). JAK2 V617F qPCR sensitivity is 0.1%. Results of this assay should be correlated with morphology and other laboratory testing for final diagnosis and classification.					

Performing Site:

WMRL: Warde Medical Laboratory 300 West Textile Road Ann Arbor MI 48108 (800)876-6522

LAB: L - LOW, H - HIGH, AB - ABNORMAL, C - CRITICAL,

Report Date: 11/18/2025 14:56

E311000011

Ordered By: CLIENT C CLIENT, MD

WMB-25-3804

WX0000000237

WX00000000000511

Page 1 of 1

Kajal V. Sitwala, MD, PhD - Medical Director



LABORATORY REPORT

QC ACCOUNT (WARDE)
300 W. TEXTILE
ANN ARBOR MI 48108

EXAMPLE, REPORT
WX0000000158 M 07/08/1968

Collected: 11/11/2025 14:17

Received: 11/11/2025 14:17

JAK2 with reflex to NGS for ex12/CALR/MPL

Test Name	Result	Flag	Ref-Ranges	Units	Site
Specimen Source	Whole Blood				WMRL
JAK2 V617F Mutation by PCR	DETECTED	AB			WMRL
Percent of WBCs with V617F Mutation	5.0	AB	<=0.1	%	WMRL
Variant 1 Information	JAK2 p.V617F				WMRL
Interpretation	SEEBELOW				WMRL
A JAK2 p.V617F (c.1849G>T) mutation is detected by qPCR at the stated WBC%. JAK2 V617F mutation is associated with myeloproliferative neoplasms (MPNs), including polycythemia vera (PV), essential thrombocythemia (ET), and primary myelofibrosis (PMF). NGS testing was not performed on this specimen.					
Assay Info	SEEBELOW				WMRL
This assay utilizes quantitative polymerase chain reaction (qPCR) to detect and quantify the presence of JAK2 p.V617F mutation. If the sample is negative (or minimally positive) by PCR, Next Generation Sequencing (NGS) is performed to interrogate DNA from leukocytes for the presence of genomic alterations in exon 12 and exon 14 of JAK2, exon 9 of CALR, exon 10 of MPL (including codons 505 and 515), and exons 14 and 17 of CSF3R. The procedure targets specific loci through PCR enrichment, and the bioinformatics algorithm limits analysis to a discrete set of pathogenic mutations classified in the literature as definitional to diagnosis of myeloproliferative neoplasms. A complete list of variants reportable by this assay can be found on the Warde website (https://wardelab.com/resources/forms).					
DNA was aligned to GRCh37 (hg19) for analysis. The transcripts IDs used as reference sequences are NM004972.3 (JAK2), NM_004343.3 (CALR), NM_005373.3 (MPL), and NM_000760.4 (CSF3R).					
The lower limit for mutation detection in NGS is approximately 5% variant allele fraction by read proportion (VAF). JAK2 V617F qPCR sensitivity is 0.1%. Results of this assay should be correlated with morphology and other laboratory testing for final diagnosis and classification.					

Performing Site:

WMRL: Warde Medical Laboratory 300 West Textile Road Ann Arbor MI 48108 (800)876-6522

LAB: L - LOW, H - HIGH, AB - ABNORMAL, C - CRITICAL,

Report Date: 11/18/2025 14:56

E311000010

Ordered By: CLIENT C CLIENT, MD

WMB-25-3803

WX0000000158

WX0000000000260

Page 1 of 1

Kajal V. Sitwala, MD, PhD - Medical Director

New Test Activation

Effective Date	12/9/2025
Name	Drug Monitoring, Mitragynine (Kratom), Quant, Urine
Code	MITQN
CPT Code(s)	80323
Notes	New York DOH Approval Status: Yes

Specimen Requirements

Specimen Required	<i>Collect:</i> Random urine <i>Specimen Preparation:</i> Send 3.0 mL urine in a screw capped plastic urine cup. <i>Minimum Volume:</i> 2.0 mL <i>Transport Temperature:</i> Refrigerated
Rejection Criteria	Preserved urine
Stability	Room temperature: 7 days Refrigerated: 21 days Frozen: 30 days

Performing Information

Methodology	Chromatography/Mass Spectrometry
Reference Range	<2 ng/mL
Performed Days	Tuesday, Thursday, Saturday
Turnaround Time	4 - 7 days
Performing Laboratory	Quest

Interface Information

Legacy Code	MITQN		
Interface Order Code	3700121		
Result Code	Name	LOINC Code	AOE/Prompt
3700122	Mitragynine	96059-1	No
3700123	medMATCH Mitragynine	54247-2	No
3700124	Mitragynine Comments	54247-2	No



LABORATORY REPORT

QC ACCOUNT (WARDE)
300 W. TEXTILE
ANN ARBOR MI 48108

EXAMPLE, REPORT

WX0000000237 F 12/05/1988 36 Y

Referral Testing

Collected: 11/18/2025 09:18

Received: 11/18/2025 09:18

Test Name	Result	Flag	Ref-Ranges	Units	Site
Drug Monitoring, Mitragynine (Kratom), Quant, Urine					
Mitragynine	NEGATIVE		<2	ng/mL	QHRL
Mitragynine Comments	SEE BELOW				QHRL
See LDT message Test Performed by Quest, Chantilly, Quest Diagnostics Nichols Institute, 14225 Newbrook Drive, Chantilly, VA 20151 Patrick W Mason, M.D., Ph.D., Director of Laboratories (703) 802-6900, CLIA 49D0221801					
medMATCH Comments	.				QHRL
Notes and Comments	SEE BELOW				QHRL

This drug testing is for medical treatment only.
Analysis was performed as non-forensic testing and
these results should be used only by healthcare
providers to render diagnosis or treatment, or to
monitor progress of medical conditions.

LDT Message:

This test was developed and its analytical
performance characteristics have been determined
by Quest Diagnostics Nichols Institute Chantilly,
VA. 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.

Healthcare Providers needing Interpretation assistance,
please contact us at 1.877.40.RXTOX (1.877.407.9869)
M-F, 8am to 10pm EST
Test Performed by Quest, Chantilly,
Quest Diagnostics Nichols Institute,
14225 Newbrook Drive, Chantilly, VA 20151
Patrick W Mason, M.D., Ph.D., Director of Laboratories
(703) 802-6900, CLIA 49D0221801

Reported Date: 11/18/2025 09:19 MITQN

LAB: L - LOW, H - HIGH, AB - ABNORMAL, C - CRITICAL, . - NOT TESTED

E318000005
WX0000000237

Printed D&T: 11/18/25 09:19

Ordered By: CLIENT CLIENT
WX00000000000511

Kajal V. Sitwala, MD, PhD - Medical Director

Form: MM RL1

PAGE 1 OF 1

New Test Activation			
Effective Date	12/9/2025		
Name	Mumps Virus Antibody IgM		
Code	MVABM		
CPT Code(s)	86735		
Notes	New York DOH Approval Status: Yes		
Specimen Requirements			
Specimen Required	Collect: Serum separator tube (SST) Specimen Preparation: Centrifuge, separate serum from cells and send 1.0 mL serum in a screw capped plastic vial. Minimum Volume: 0.2 mL Transport Temperature: Refrigerated		
Alternate Specimen	Serum: Red top		
Rejection Criteria	Gross hemolysis, grossly lipemic		
Stability	Room temperature: 7 days Refrigerated: 14 days Frozen: 30 days		
Performing Information			
Methodology	Immunofluorescence Assay (IFA) (CF), Anticomplement Immunofluorescence, Enzyme Immunoassay (EIA), Enzyme Linked Immunosorbent Assay (ELISA)		
Reference Range	Titer Interpretation <1:20 Antibody not detected ≥1:20 Antibody detected		
Performed Days	Monday, Tuesday, Thursday-Saturday		
Turnaround Time	3 - 5 days		
Performing Laboratory	Quest		
Interface Information			
Legacy Code	MVABM		
Interface Order Code	3401116		
Result Code	Name	LOINC Code	AOE/Prompt
3401116	Mumps Virus Antibody IgM	6479-0	No



LABORATORY REPORT

QC ACCOUNT (WARDE)
300 W. TEXTILE
ANN ARBOR MI 48108

EXAMPLE, REPORT

WX0000000158 M 07/08/1968 57 Y

Referral Testing

Collected: 11/18/2025 09:20

Received: 11/18/2025 09:20

<u>Test Name</u>	<u>Result</u>	<u>Flag</u>	<u>Ref-Ranges</u>	<u>Units</u>	<u>Site</u>
Mumps Virus Antibody IgM	1:40	H			QCRL

<u>Titer</u>	<u>Interpretation</u>
<1:20	Antibody not detected
>or=1:20	Antibody detected

The presence of IgM antibody to mumps typically indicates recent or current mumps infection; however, false positive results may occur due to antibody cross reactivity to parainfluenza virus.

This test was developed and its analytical performance characteristics have been determined by Quest Diagnostics. It has not been cleared or approved by FDA. This assay has been validated pursuant to the CLIA regulations and is used for clinical purposes.

Test Performed at:
Quest Diagnostics Nichols Institute
33608 Ortega Highway
San Juan Capistrano, CA 92675-2042 I Maramica MD, PhD

Reported Date: 11/18/2025 09:20 MVABM

Performing Site:

QCRL: QUEST DIAGNOSTICS REFERENCE LAB CAPISTRANO 33608 Ortega Highway San Juan Capistrano CA 92675

LAB: L - LOW, H - HIGH, AB - ABNORMAL, C - CRITICAL, . - NOT TESTED

E318000006
WX0000000158

Ordered By: CLIENT CLIENT
WX00000000000260

Printed D&T: 11/18/25 09:21

Kajal V. Sitwala, MD, PhD - Medical Director
Form: MM RL1
PAGE 1 OF 1

New Test Activation			
Effective Date	12/2/2025		
Name	NPS Stimulants/Bath Salts Panel, Urine		
Code	USBSP		
CPT Code(s)	80371		
Notes	New York DOH Approval Status: Yes		
Specimen Requirements			
Specimen Required	Collect: Random urine Specimen Preparation: Send 2.0 mL urine in a screw capped plastic vial. Minimum Volume: 1.0 mL Transport Temperature: Refrigerated		
Rejection Criteria	Polymer gel separation tube (SST or PST)		
Stability	Room temperature: 7 days Refrigerated: 14 days Frozen (-20°C): 14 days		
Performing Information			
Methodology	Liquid Chromatography - Tandem Mass Spectrometry (LC/MS/MS)		
Reference Range	See report		
Performed Days	Varies		
Turnaround Time	6 - 10 days		
Performing Laboratory	NMS Labs		
Interface Information			
Legacy Code	USBSP		
Interface Order Code	3300393		
Result Code	Name	LOINC Code	AOE/Prompt
3300394	N,N-Dimethylpentylone		No
3300396	Pentylone		No
3300397	Ethylone		No
3300398	Butylone		No
3300399	N-ethyl Pentylone		No



LABORATORY REPORT

QC ACCOUNT (WARDE)
300 W. TEXTILE
ANN ARBOR MI 48108

EXAMPLE, REPORT

WX0000000237 F 12/05/1988 36 Y

Referral Testing

Collected: 11/18/2025 09:22

Received: 11/18/2025 09:22

Test Name	Result	Flag	Ref-Ranges	Units	Site
NPS Stimulants/Bath Salts Panel, Urine					
N,N-Dimethylpentylone	None Detected			ng/mL	NMRL
Reporting Limit: 10 ng/mL Synonym(s): Dipentylone; bk-DMBDP N,N-Dimethylpentylone is a novel psychoactive stimulant. Analysis by High Performance Liquid Chromatography/ Tandem Mass Spectrometry (LC-MS/MS)					
Pentylone	None Detected			ng/mL	NMRL
Reporting Limit: 10 ng/mL Synonym(s): beta-keto-Methylbenzodioxolylpentanamine; bk-MBDP; bk-Methyl-K Pentylone is a novel psychoactive stimulant. Analysis by High Performance Liquid Chromatography/ Tandem Mass Spectrometry (LC-MS/MS)					
Ethylone	None Detected			ng/mL	NMRL
Reporting Limit: 10 ng/mL Synonym(s): 3,4-Methylenedioxy-N-ethylcathinone; MDEC; bk-MDEA Ethylone is a novel psychoactive stimulant. Analysis by High Performance Liquid Chromatography/ Tandem Mass Spectrometry (LC-MS/MS)					
Butylone	None Detected			ng/mL	NMRL
Reporting Limit: 10 ng/mL Synonym(s): bk-DMBDB Butylone is a novel psychoactive stimulant. Analysis by High Performance Liquid Chromatography/ Tandem Mass Spectrometry (LC-MS/MS)					
N-ethyl Pentylone	None Detected			ng/mL	NMRL
Reporting Limit: 10 ng/mL Synonym(s): Ephylone; N-ethylpentylone; bK-EBDP; bk-Ethylbenzodioxolylpentanamine N-ethyl Pentylone is a novel psychoactive stimulant. Analysis by High Performance Liquid Chromatography/ Tandem Mass Spectrometry (LC-MS/MS) This test was developed and its performance characteristics determined by NMS Labs. It has not been cleared or approved by the US Food and Drug Administration. Digital data review may have taken place remotely by qualified NMS staff utilizing a secure VPN connection for some or all of the reported results. This is in accordance with and follows CLIA regulations.					

Testing performed at NMS Labs, Inc.

LAB: L - LOW, H - HIGH, AB - ABNORMAL, C - CRITICAL, . - NOT TESTED

E318000007
WX0000000237
Printed D&T: 11/18/25 09:23

Ordered By: CLIENT CLIENT
WX00000000000511

Kajal V. Sitwala, MD, PhD - Medical Director
Form: MM RL1
PAGE 1 OF 2



LABORATORY REPORT

QC ACCOUNT (WARDE)
300 W. TEXTILE
ANN ARBOR MI 48108

EXAMPLE, REPORT
WX0000000237 F 12/05/1988 36 Y

Referral Testing

Collected: 11/18/2025 09:22 Received: 11/18/2025 09:22

Test Name	Result	Flag	Ref-Ranges	Units	Site
200 Welsh Road Horsham, PA 19044-2208 Robert A. Middleberg, PhD, F-ABFT, DABCC-TC, Laboratory Director CLIA 39D0197898					

Reported Date: 11/18/2025 09:22 USBSP

Performing Site:
NMRL: NMS Labs 200 Welsh Road Horsham PA 19044

LAB: L - LOW, H - HIGH, AB - ABNORMAL, C - CRITICAL, . - NOT TESTED

E318000007
WX0000000237
Printed D&T: 11/18/25 09:23

Ordered By: CLIENT CLIENT
WX00000000000511

Kajal V. Sitwala, MD, PhD - Medical Director
Form: MM RL1
PAGE 2 OF 2

Update Existing Test

Effective Date	12/2/2025
Name	Blood Culture, Acid-Fast Bacillus (AFB)
Code	BCAF
Interface Order Code	3618400
Legacy Code	BACF
Notes	Update to alternate specimen.

Required Testing Changes

Alternate Specimen	Bone marrow: Bactec® Myco/F Lytic bottle
--------------------	--

Update Existing Test

Effective Date	12/8/2025
Name	HPV mRNA E6/E7, Rect w/Ref to Geno, 16, 18/45
Code	HPVRG
Interface Order Code	3400851
Legacy Code	HPVRG
Notes	Update to specimen requirements and stability.

Required Testing Changes

Specimen Required	<p><i>Collect:</i> Liquid cytology</p> <p><i>Specimen Preparation:</i> Collect an anal-rectal sample with a Dacron/Polyester swab. Send Dacron/Polyester swab collected in 3 mL Preservcyt® transport medium ThinPrep® vial or Aptima® specimen transfer tube (green label).</p> <p><i>Minimum Volume:</i> 1.5 mL</p> <p><i>Transport Temperature:</i> Room temperature</p>
Stability	<p>Room temperature: 30 days</p> <p>Refrigerated: 30 days</p> <p>Frozen: Undetermined</p>

Update Existing Test

Effective Date	12/2/2025
Name	Potassium - RBC
Code	KRBC
Interface Order Code	3718600
Legacy Code	POTR
Notes	Update to New York approval status.

Required Testing Changes

New York Approval	New York DOH Approval Status: Yes
-------------------	-----------------------------------

Update Existing Test

Effective Date	12/8/2025
Name	Lactic Acid, CSF
Code	LACSF
Interface Order Code	3401076
Legacy Code	LACSF
Notes	Update to reference range.

Required Testing Changes

Reference Range	Neonate 10-60 mg/dL 3-10 Days 10-40 mg/dL 11 Days-15 Years 10-25 mg/dL ≥18 years 10-22 mg/dL
-----------------	--

Update Existing Test

Effective Date	12/1/2025
Name	Phenol Exposure, Urine
Code	UPHEP
Interface Order Code	3301475
Legacy Code	UPHEP
Notes	Update to CPT code and methodology.

Required Testing Changes

CPT Code(s)	84600
Methodology	Gas Chromatography

Inactivate Test With Replacement

Effective Date 1/6/2026

Inactivated Test

Name MPN Core Diagnostics Panel

Code MPNCP

Legacy Code MPNCP

Interface Order Code 3400877

Replacement Test

Name Focused Myeloproliferative Neoplasm Panel

Code FMPN

CPT Code(s) 81219, 81279, 81270, 81338, 81479

Notes New York DOH Approval Status: No

Specimen Requirements

Specimen Required
Collect: Whole Blood EDTA Lavender
Specimen Preparation: Send 1.0 mL whole blood in a screw capped plastic vial.
Minimum Volume: 0.50 mL
Transport Temperature: Refrigerated

Alternate Specimen Bone Marrow

Rejection Criteria Serum, plasma, tissue, buccal brush or swab, grossly hemolyzed specimens

Stability
Room temperature: 3 days
Refrigerated: 7 days
Frozen: 30 days

Performing Information

Methodology Targeted Next Generation Sequencing

Reference Range See report

Performed Days Monday - Friday

Turnaround Time 7 - 14 days

Performing Laboratory Warde Medical Laboratory

Interface Information

Legacy Code FMPN

Interface Order Code 3000911

Result Code	Name	LOINC Code	AOE/Prompt
3000912	Specimen Source	31208-2	No
3000913	JAK2 V617F Mutation by NGS	43399-5	No
3000914	JAK2 Exon 12 Mutation	55300-8	No
3000916	CALR Exon 9 Mutation	77174-1	No
3000917	MPL Exon 10 Mutation	62947-7	No
3000918	CSF3R Mutation	92674-1	No
3000921	Variant 1 Information	48005-3	No
3000921	Variant 2 Information	48005-3	No
3000922	Interpretation	50398-7	No
3000923	Assay Info	8266-9	No



LABORATORY REPORT

QC ACCOUNT (WARDE)
300 W. TEXTILE
ANN ARBOR MI 48108

EXAMPLE, REPORT
WX0000000237 F 12/05/1988

Collected: 11/11/2025 14:17

Received: 11/11/2025 14:17

Focused Myeloproliferative Neoplasm Pnl

<u>Test Name</u>	<u>Result</u>	<u>Flag</u>	<u>Site</u>
Specimen Source	Whole Blood		WMRL
JAK2 V617F Mutation by NGS	Not detected		WMRL
JAK2 Exon 12 Mutation	Not detected		WMRL
CALR Exon 9 Mutation	Not detected		WMRL
MPL Exon 10 Mutation	Not detected		WMRL
CSF3R Mutation	Not detected		WMRL
Variant 1 Information	n/a		WMRL
Variant 2 Information	n/a		WMRL
Interpretation	SEEBELOW		WMRL

No mutations were detected in codon 617 or exon 12 of JAK2, exon 9 of CALR, exon 10 (codons 505 and 515) of MPL, or CSF3R (cytoplasmic tail truncations). Absence of mutations from these regions does not exclude the presence of a myeloproliferative neoplasm (MPN). Further evaluation for MPN could include BCR-ABL1 rearrangement or Myeloid NGS.

Assay Info SEEBELOW WMRL

This assay utilizes Next Generation Sequencing (NGS) to interrogate DNA from leukocytes for the presence of genomic alterations in exon 12 and exon 14 of JAK2 (including codon 617), exon 9 of CALR, exon 10 of MPL (including codons 505 and 515), and exons 14 and 17 of CSF3R. The procedure targets specific loci through PCR enrichment, and the bioinformatics algorithm limits analysis to a discrete set of pathogenic mutations classified in the literature as definitional to diagnosis of myeloproliferative neoplasms. A complete list of variants reportable by this assay can be found on the Warde website (<https://wardelab.com/resources/forms>).

DNA was aligned to GRCh37 (hg19) for analysis. The transcripts IDs used as reference sequences are NM004972.3 (JAK2), NM_004343.3 (CALR), NM_005373.3 (MPL), and NM_000760.4 (CSF3R).

The lower limit for mutation detection is approximately 5% variant allele fraction by read proportion (VAF). Results of this assay should be correlated with morphology and other laboratory testing for final diagnosis and classification.

Performing Site:

WMRL: Warde Medical Laboratory 300 West Textile Road Ann Arbor MI 48108 (800)876-6522

LAB: L - LOW, H - HIGH, AB - ABNORMAL, C - CRITICAL,

Report Date: 11/18/2025 14:55

E311000009

Ordered By: CLIENT C CLIENT, MD

WMB-25-3802

WX0000000237

WX00000000000511

Page 1 of 1

Kajal V. Sitwala, MD, PhD - Medical Director