ARUP LABORATORIES
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Client: Example Client ABC123
123 Test Drive
Salt Lake City, UT 84108
UNITED STATES

Physician: Doctor, Example

Patient: Patient, Example

DOB	12/31/1752
Gender:	Male
Patient Identifiers:	01234567890ABCD, 012345
Visit Number (FIN):	01234567890ABCD
Collection Date:	01/01/2017 12:34

JAK2 Gene, V617F Mutation, Qualitative with Reflex to CALR (Calreticulin) Exon 9 Mutation Analysis by PCR with Reflex to MPL Mutation Detection

ARUP test code 2012084

JAK2 Gene, V617F Mutation, Qualitative	Not Detected

There is no evidence of the JAK2 V617F point mutation by PCR analysis. This result does not entirely exclude the possibility of a JAK2 V617F mutation below the test limit of detection.

CALR testing will be performed.

INTERPRETIVE INFORMATION: JAK2 (V617F) Mutation by PCR

Patient DNA is isolated and subjected to allele-specific PCR amplification. The reaction uses an oligonucleotide primer set specific for the exon 14 of JAK2 on chromosome 9, and an allele-specific primer that specifically initiates amplification from the allele containing the point mutation in codon 617. Each assay includes a positive control reaction using DNA from the cell-line HEL with a known JAK2 (V617F) codon mutation and a negative control using DNA from placental DNA.

The JAK2 gene sequences are present in the normal human genome and serve as a control for PCR in the assay.

PCR products are analyzed by electrophoresis and UV transillumination of ethidium bromide stained gels.

Results of this test must always be interpreted in the context of morphologic and other relevant data, and should not be used alone for a diagnosis of malignancy.

The limit of detection for this assay is 2 percent mutated alleles.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

CALR (Calreticulin) Exon 9 Mutation Analysis by PCR

ARUP test code 2010673

CALR Exon 9 Mutation Analysis - Result	Not Detected

H=High, L=Low, *=Abnormal, C=Critical

A CALR exon 9 insertion/deletion mutation was not detected. This does not exclude the possibility of a CALR mutation that is not an exon 9 insertion/deletion. It also does not exclude the possibility of a CALR exon 9 insertion/deletion mutation below the assay limit of detection.

MPL testing will be performed.

Test information: CALR (Calreticulin), Exon 9 Mutation Analysis by PCR

This test is designed to detect CALR exon 9 insertion/deletion mutations. Insertion/deletion mutations in exon 9 of the CALR gene result in a frameshift and are found in the majority of cases of the myeloproliferative neoplasms, essential thrombocythemia (ET) and primary myelofibrosis (PMF) that lack JAK2 V617F mutations.

Methodology:
Genomic DNA is isolated from either whole blood or bone marrow. PCR followed by capillary electrophoresis is performed to detect CALR exon 9 insertion/deletion mutations.

Limitations:
Mutations in other locations within the CALR gene or mutations in other genes will not be detected.
The limit of detection for this test is 5 percent mutant alleles.

Results of this test must always be interpreted within the clinical context and other relevant data, and should not be used alone for a diagnosis of malignancy.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

MPL Mutation Detection by Capillary Electrophoresis

ARUP test code 2005545

MPL Results	Not Detected

A mutation was not detected in the MPL gene. MPL variants other than S505N, W515K, W515L, and W515A or below the limit of detection of the assay may not be identified.

H=High, L=Low, *=Abnormal, C=Critical

INTERPRETIVE INFORMATION: MPL Mutation Detection by Capillary Electrophoresis

This test is designed to detect W515K, W515L, W515A, and S505N mutations in exon 10 of the MPL gene. Detection of MPL mutation is used for diagnosis of patients with myeloproliferative neoplasms and suggests a diagnosis of either primary myelofibrosis (PMF) or essential thrombocythemia (ET) in a subset of patients with non-mutated JAK2.

METHODOLOGY: DNA is isolated and amplified using allele-specific PCR for codons 505 and 515 of the MPL gene. The resulting amplicons are resolved via fragment analysis by capillary electrophoresis to detect the presence of W515K, W515L, W515A, and S505N mutations.

LIMITATIONS: Mutations other than those specified above, or at other locations within the MPL gene or in other genes will not be detected.

Limit of detection for this test is 5 percent mutant allele.

The results of this test must always be interpreted within the patient's clinical context and in conjunction with other relevant data. Results should not be used alone for a diagnosis of malignancy. This test is not intended to detect minimal residual disease.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
JAK2 Gene, V617F Mutation, Qualitative	20-118-107261	4/27/2020 12:11:00 PM	4/27/2020 12:11:14 PM	4/27/2020 12:19:00 PM
CALR Exon 9 Mutation Analysis - Result	20-118-107261	4/27/2020 12:11:00 PM	4/27/2020 12:18:11 PM	4/27/2020 12:27:00 PM
MPL Results	20-118-107261	4/27/2020 12:11:00 PM	4/27/2020 12:25:50 PM	4/27/2020 12:27:00 PM

END OF CHART

H=High, L=Low, *=Abnormal, C=Critical