MAYO CLINIC LABORATORIES

NEW TEST

Notification Date: November 9, 2021
Effective Date: December 13, 2021

Acute Myeloid Leukemia (AML), Specified FISH, Varies

Test ID: AMLMF

Useful for:
Detecting a neoplastic clone associated with the recurrent chromosome abnormalities seen in patients with acute myeloid leukemia (AML) or other myeloid malignancies using a client specified probe set

An adjunct to conventional chromosome studies in patients with AML

Evaluating specimens in which standard cytogenetic analysis is unsuccessful

Testing Algorithm:
This test includes a charge for the probe application, analysis and professional interpretation of results for 1 probe set (2 individual fluorescence in situ hybridization [FISH] probes). Additional charges will be incurred for all reflex or additional probe sets performed.

If the patient has known chromosome abnormalities identified in the diagnostic study, indicate the abnormality and which probes should be used.

When specified, any of the following probes will be performed:
t(8;21), [M2], RUNX1T1/RUNX1
Reflex: t(3;21)(q26.2;q22) MECOM/RUNX1
t(15;17), [M3], PML/RARA
Reflex: 17q21 rearrangement, RARA break-apart
11q23 rearrangement, [M0-M7], MLL (KMT2A)
Reflex: t(4;11)(q21;q23), AFF1/MLL
Reflex: t(6;11)(q27;q23), MLLT4(AFDN)/MLL
Reflex: t(9;11)(p22;q23), MLLT3/MLL
Reflex: t(10;11)(p13;q23), MLLT10/MLL
Reflex: t(11;16)(q23;p13.3), MLL/CREBBP
Reflex: t(11;19)(q23;p13.1), MLL/ELL
Reflex: t(11;19)(q23;p13.3), MLL/MLLT1
inv(16), [M4, Eos], MYH11/CBFB
Reflex: 16q22 rearrangement, CBFB break-apart
inv(16), GLIS2/CBFA2T3
11p15.4 rearrangement, NUP98 break-apart

Reflex: t(7;11)(p15;p15.4), HOXA9/NUP98
12p13 rearrangement, ETV6 break-apart
Reflex: t(7;12)(q36;p13), MNX1/ETV6
t(6;9), [M2,M4], DEK/NUP214
inv(3) or t(3;3), [M1,2,4,6,7], RPN1/MECOM
Reflex: t(1;3)(p36;q21), PRDM16/RPN1
Reflex: t(3;21)(q26.2;q22), MECOM/RUNX1
t(8;16), [M4,M5], KAT6A/CREBBP
t(1;22), [M7], RBM15/MKL1
-5/5q-, D5S630/EGR1
-7/7q-, D7Z1/ D7S486
17p-, TP53/D17Z1
t(9;22), BCR/ABL1
Reflex: 9q34 rearrangement, ABL1 break-apart
t(3;5), [M2, 4, 6], MLF1/NPM1

Reflex Tests:

Test ID	Reporting Name	Available Separately	Always Performed
AMLMB	Probe, Each Additional (AMLMF)	No (Bill Only)	No

Methods:
Fluorescence In Situ Hybridization (FISH)

Reference Values:
An interpretive report will be provided.

Specimen Requirements:

Preferred Specimen Type: Bone marrow

Preferred Container/Tube: Yellow top (ACD)

Acceptable Container/Tube: Green top (heparin) or lavender top (EDTA)

Specimen Volume: 2-3 mL

Minimum Volume: 1 mL

Collection Instructions:

1. It is preferable to send the first aspirate from the bone marrow collection.
2. Invert several times to mix bone marrow.

Acceptable Specimen Type: Blood

Preferred Container/Tube: Yellow top (ACD)

Acceptable Container/Tube: Green top (heparin) or lavender top (EDTA)

Specimen Volume: 6 mL

Minimum Volume: 2 mL

Collection Instructions:

1. Invert several times to mix blood.

Note:

1. A list of probes requested for analysis is required. Probes available for this test are listed in the Testing Algorithm section

2. A reason for testing and a flow cytometry and/or a bone marrow pathology report, if available, should be submitted with each specimen. The laboratory will not reject testing if this information is not provided, however appropriate testing and/or interpretation may be compromised or delayed in some instances. If this information is not provided, an appropriate indication for testing may be entered by Mayo Clinic Laboratories.

Specimen Stability Information:

Specimen Type	Temperature	Time
Varies	Ambient (preferred)	
	Refrigerated	

Cautions:

This test is not approved by the US Food and Drug Administration, and it is best used as an adjunct to existing clinical and pathologic information.

Bone marrow is the preferred sample type for this fluorescence in situ hybridization (FISH)test. If bone marrow is not available, a blood specimen may be used if there are neoplastic cells in the blood specimen (as verified by a hematopathologist).

CPT Code:

88271x2, 88275x1, 88291x1- FISH Probe, Analysis, Interpretation; 1 probe set

88271x2, 88275x1-FISH Probe, Analysis; each additional probe set (if appropriate)

Day(s) Performed: Monday through Friday **Report Available:** 7 to 10 days

Questions

Contact Joshua Couchene Laboratory Technologist Resource Coordinator at 800-533-1710.