MAYO CLINIC LABORATORIES

Test Definition: CSNMM

NGSMM Pre-Analysis Cell Sorting, BM

Overview

Useful For

Evaluation of multiple myeloma at the time of diagnosis, for prognostic and potential therapeutic indications

Method Name

Only orderable as a reflex. For more information see NGSMM / NGSMM Multiple Myeloma Gene Panel, Next-Generation Sequencing, Bone Marrow.
Flow Cytometric Cell Selection

NY State Available

No

Specimen

Specimen Type

Bone Marrow

Specimen Required

Only orderable as a reflex. For more information see NGSMM / NGSMM Multiple Myeloma Gene Panel, Next-Generation Sequencing, Bone Marrow.

Reject Due To

Gross hemolysis	Reject
Gross lipemia	OK
Other	Bone marrow biopsies, slides, paraffin shavings, frozen tissues, paraffin-embedded tissues, paraffin-embedded bone marrow aspirates, extracted DNA, or bone marrow aspirate samples with <15% plasma cells by cytologic differential count.

Specimen Minimum Volume

2 mL

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Bone Marrow	Ambient (preferred)	4 days	

Clinical & Interpretive

Clinical Information

Testing allows for further risk categorization of the multiple myeloma (MM) through the identification of additional abnormalities of prognostic and potentially therapeutic value. Application of targeted next-generation sequencing-based analysis is a useful adjunct to the standard evaluation of MM patients at diagnosis and relapse.

Reference Values

Only orderable as a reflex. For more information see NGSMM / NGSMM Multiple Myeloma Gene Panel, Next-Generation Sequencing, Bone Marrow.

Interpretation

Correlation with clinical, histopathologic and additional laboratory findings is required for final interpretation of these results. The final interpretation of results for clinical management of the patient is the responsibility of the managing physician.

Cautions

No significant cautionary statements

Clinical Reference

1. Walker BA, Boyle, EM, Wardell CP, et al: Mutational spectrum, copy number changes, and outcome: results of a sequencing study of patients with newly diagnosed myeloma. J Clin Oncol 2015;33:3911-3920
2. Morgan GJ, Walker BA, Davies FE: The genetic architecture of multiple myeloma. Nat RevCancer. 2012;12(5):335-348
3. Kortuem KM, Braggio E, Bruins L, et al: Panel sequencing for clinically oriented variant screening and copy number detection in 142 untreated multiple myeloma patients. Blood Cancer J. 2016;6:e397
4. Kortuem KM, Mai EK, Hanafiah NH, et al: Targeted sequencing of refractory myeloma reveals a high incidence of mutations in CRBN and Ras pathway genes. Blood 2016;128:1226-1233

Performance

Method Description

Selection of plasma cells using fluorescence activated cell sorting is the most direct and robust method of obtaining relatively pure plasma cell populations for molecular assessment. This in turn augments the ability to identify key mutations, as well as sub clonal variants of possible clinical value, without dilution effects from non-tumor cell DNA.(Operator's Guide: Cell Sorter, Sony Corporation. LE-SH800, 2015)

PDF Report

No

Specimen Retention Time

DNA 3 months

Performing Laboratory Location

Rochester

Fees & Codes

Test Classification

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 US Food and Drug Administration.

CPT Code Information

88184-Flow Cytometry; first cell surface, cytoplasmic or nuclear marker
88185 x 5-Flow Cytometry, additional cell surface, cytoplasmic or nuclear marker (each)