MAYO CLINIC LABORATORIES

TEST CHANGE

Notification Date: September 23, 2025
Effective Date: October 27, 2025

mSMART, Plasma Cell Proliferative Disorder, FISH, Bone Marrow

Test ID: MPCDS

Explanation:
On the effective date, the lab will discontinue the limited progression panel for secondary abnormalities and instead evaluate for the presence of both primary and secondary high-risk cytogenetic abnormalities to align with current guidelines.

Current Algorithm	New 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) on pre-sorted plasma cells. Additional charges will be incurred for all reflex or additional probe sets performed. Analysis charges will be incurred based on the number of cells analyzed per probe set. If an insufficient number of plasma cells are available for analysis, no analysis charges will be incurred. This test is performed using either the diagnostic or follow-up analysis algorithm. If sufficient plasma cells are identified, the diagnostic plasma cell FISH panel includes testing for the following abnormalities using the FISH probes listed: 1p loss/1q gain, CDKN2C/1q22 probe set t(8q24.21;var) or MYC rearrangement, MYC break-apart probe set t(14q32;var) or IGH rearrangement, IGH break-apart probe set -17/17p-, TP53/D17Z1 probe set If an IGH rearrangement is identified, appropriate reflex testing will be performed in an attempt to identify the translocation partner using the FISH probes listed: t(4;14)(p16.3;q32) IGH::FGFR3 fusion, FGFR3/IGH probe set	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) on pre-sorted plasma cells. Additional charges will be incurred for all reflex or additional probe sets performed. Analysis charges will be incurred based on the number of cells analyzed per probe set. If an insufficient number of plasma cells are available for analysis, no analysis charges will be incurred. If sufficient plasma cells are identified, the plasma cell FISH panel includes testing for the following abnormalities using the FISH probes listed: 1p loss/1q gain, CDKN2C/1q22 probe set t(8q24.21;var) or MYC rearrangement, MYC break-apart probe set t(14q32;var) or IGH rearrangement, IGH break-apart probe set -17/17p-, TP53/D17Z1 probe set If an IGH rearrangement is identified, appropriate reflex testing will be performed in an attempt to identify the translocation partner using the FISH probes listed: t(4;14)(p16.3;q32) IGH::FGFR3 fusion, FGFR3/IGH probe set

t(6;14)(p21;q32) IGH::CCND3 fusion, CCND3/IGH probe set

t(11;14)(q13;q32) or IGH::CCND1 fusion, CCND1/IGH probe set

t(14;16)(q32;q23) IGH::MAF fusion, IGH/MAF probe set

t(14;20)(q32;q12) IGH::MAFB fusion, IGH/MAFB probe set

Hyperdiploidy, as determined by flow cytometry, will be incorporated into the final interpretation. For samples with an unsuccessful flow evaluation for hyperdiploidy and sufficient plasma cells, FISH testing for the following abnormalities will be performed using the probes listed:

+3 (trisomy 3) and/or +7 (trisomy 7), D3Z1/D7Z1 probe set

+9 (trisomy 9) and/or +15 (trisomy 15), D9Z1/D15Z4 probe set

If sufficient plasma cells are identified, the follow-up plasma cell FISH panel includes testing for the following abnormalities using the FISH probes listed:

1p deletion/1q gain, CDKN2C/1q22 probe set

t(8q24.21;var) or MYC rearrangement, MYC break-apart probe set

-17/17p-, TP53/D17Z1 probe set

If no abnormalities are observed in the follow-up myeloma FISH panel, reflex testing may be performed to identify the following high-risk abnormalities, if originally identified in the diagnostic specimen, using the probes listed:

t(4;14)(p16.3;q32) IGH::FGFR3 fusion, FGFR3/IGH probe set

t(14;16)(q32;q23) IGH::MAF fusion, IGH/MAF probe set

t(14;20)(q32;q12) IGH::MAFB fusion, IGH/MAFB probe set

Follow-up testing is determined by the results of previous MPCDS / mSMART, Plasma Cell Proliferative Disorder, FISH, Bone Marrow testing, reported at this laboratory.

Appropriate ancillary probes may be performed at consultant discretion to render comprehensive assessment. Any additional probes will have the

t(6;14)(p21;q32) IGH::CCND3 fusion, CCND3/IGH probe set

t(11;14)(q13;q32) or IGH::CCND1 fusion, CCND1/IGH probe set

t(14;16)(q32;q23) IGH::MAF fusion, IGH/MAF probe set

t(14;20)(q32;q12) IGH::MAFB fusion, IGH/MAFB probe set

Hyperdiploidy, as determined by flow cytometry, will be incorporated into the final interpretation. For samples with an unsuccessful flow evaluation for hyperdiploidy and sufficient plasma cells, FISH testing for the following abnormalities will be performed using the probes listed:

+3 (trisomy 3) and/or +7 (trisomy 7), D3Z1/D7Z1 probe set

+9 (trisomy 9) and/or +15 (trisomy 15), D9Z1/D15Z4 probe set

Appropriate ancillary probes may be performed at consultant discretion to render comprehensive assessment. Any additional probes will have the results included within the final report and will be performed at an additional charge.

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Questions

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