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Invitation: Real-World Evidence on the Value of NGS-MRD Detection for Patients with AML

As a clinical site that treats patients with acute myeloid leukemia (AML), and has used the Invivoscribe/LabPMM next-generation sequencing (NGS) measurable residual disease (MRD) tests for FLT3-ITD or mutated NPM1, we would like to invite you to participate in a retrospective "real world evidence" data consortium with the aim of collecting a cohort of between 100 and 1000 patients to determine the association of MRD test results with subsequent relapse and survival.

Background and Rationale: This study aims to assess the prognostic significance of MRD testing using NGS for detecting mutated *NPM1* and *FLT3*-internal tandem duplication (ITD) in patients with AML. Evidence of persistent AML MRD has been associated with higher relapse risk and reduced survival, influencing treatment decisions, such as allogeneic hematopoietic stem cell transplant (allo-HSCT) and post-transplant maintenance. However, limited real-world evidence hampers the use of MRD as a regulatory endpoint in clinical trials. This study addresses this gap by analyzing retrospective cohort data of newly diagnosed AML patients in the U.S. who underwent Invivoscribe NGS-MRD testing.

Primary Objective: Assess relapse-free survival (RFS) and overall survival (OS) based on MRD test results while in remission, considering the influence of allo-HSCT and stratifying by *NPM1* and *FLT3*-ITD mutation status.

Secondary Objectives: Investigate survival outcomes based on *NPM1* and *FLT3*-ITD mutations, individually and in combination. Perform subgroup analyses accounting for patient characteristics, treatment approaches, and co-mutation profiles.

Methods: The study will retrospectively collect clinical and laboratory data from participating sites, linking them to NGS-MRD results. An Excel data collection template will be provided, in addition to a model email to request sharing of MRD test results from Invivoscribe. Analysis will include Kaplan-Meier survival estimates, log-rank tests, and Cox proportional hazards models, with separate evaluations for *NPM1*, *FLT3*-ITD, and dual-mutated cases.

Ethical Considerations: Retrospective chart review under local site IRB waiver/approval. All data will be anonymized (unique patient code assigned by local site), with no HIPAA-defined direct identifiers shared for this work. Subject informed consent will not be requested due to the retrospective nature of this anonymized study.

Conclusion and Future Steps: The study will offer real-world insights into the prognostic value of NGS-MRD testing in AML, potentially guiding regulatory standards and clinical practices. A draft manuscript will be shared with participating sites for review and co-authorship. Findings will be submitted to a peer-reviewed journal, increasing the evidence in support of MRD testing for drug approval processes and laying the groundwork for larger studies.

Interested? Contact Information:

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