invivoscribe®

NPM1 MRD Assay

RUO Kit - Now Available for MiSeq™

BACKGROUND

The Nucleophosmin (*NPM1*) gene is one of the most commonly mutated genes in acute myeloid leukemia (AML), occurs in roughly one-third of AML patients at diagnosis[1,2], and in combination with other genetic aberrations, may provide information on the course of this disease. The *NPM1* MRD Assay, a targeted, deep sequencing assay, offers a standardized workflow for high-throughput laboratories. Using previously isolated DNA to identify and track mutations 'A', 'B', 'D', and 'Other', the *NPM1* MRD Software reports mutations at an allelic sensitivity of $5x10^{-5}$.

To further simplify your workflow and improve throughput, *NPM1* MRD Assay includes 24 unique dual-indices enabling the ability to multiplex multiple samples and targets such as the *FLT3* ITD Assay. This kit configuration provides laboratories the flexibility to scale testing for variable AML MRD research needs.
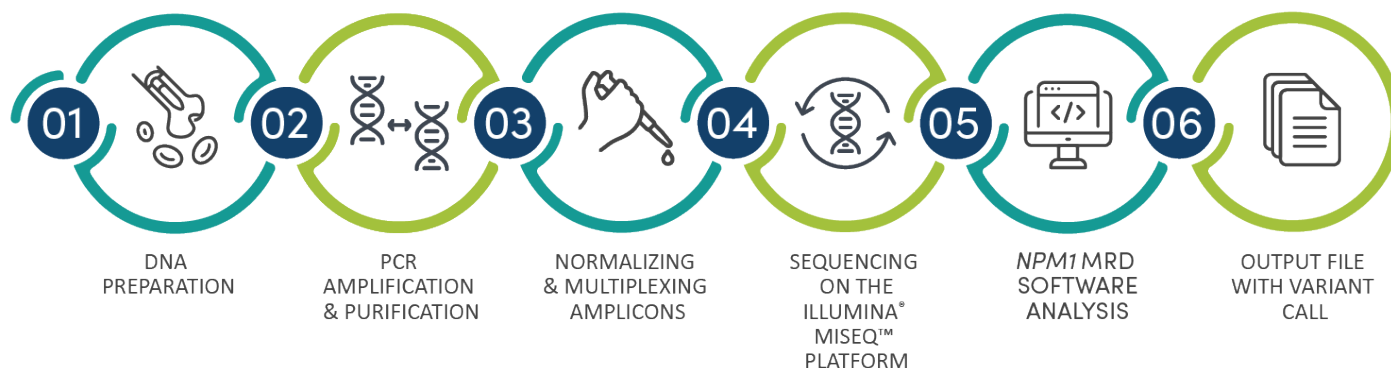
KEY BENEFITS

» **Bring MRD testing in-house for faster turn-around time**

» **Allelic sensitivity level of $5x10^{-5}$**

» **Batch samples using previously isolated gDNA**

» **Reduce errors with a standardized workflow**

» **Flexibility to multiplex samples and targets to gain cost-efficiencies**

» **Dockerized Software automates pipelines for high-throughput labs**

PRINCIPLE OF THE PROCEDURE

NPM1 mutations are caused by four-base pair nucleotide insertions most commonly in exon 12 of the *NPM1* gene[2] on chromosome 5. Next-generation sequencing of the PCR products is used to identify DNA sequences specific to previously identified mutations and estimate variant read frequencies (VRF). The Dockerized *NPM1* MRD Software, provides an objective variant call in a tab separated value (TSV) output file to automate AML MRD studies.

WORKFLOW

01 DNA PREPARATION

02 PCR AMPLIFICATION & PURIFICATION

03 NORMALIZING & MULTIPLEXING AMPLICONS

04 SEQUENCING ON THE ILLUMINA® MISEQ™ PLATFORM

05 *NPM1* MRD SOFTWARE ANALYSIS

06 OUTPUT FILE WITH VARIANT CALL

ORDERING INFORMATION

Catalog #	Product	Quantity
14160019	*NPM1* MRD Assay (MiSeq™)	96 reactions
14160029	*NPM1* MRD Software (MiSeq™)	1 Dockerized Application

REAGENTS INCLUDED IN THE KIT

Controls	Quantity
NPM1 Positive Control	500 µL tube x 2 each
NPM1 Negative Control	500 µL tube x 2 each

Master Mixes	Quantity
NPM1 Master Mixes	75 µL tube x 24 each

Figure 1.0 *NPM1* MRD Software TSV file output example

Our locally–sourced **NPM1 MRD Software** also provides sequence annotations such as transcript name, coding sequence, amino acid change, chromosomal location, and sequence contig information for every MiSeq™ run in an easily accessible TSV file.

REFERENCES

1. Thiede C, et al. (2006) *Blood* 107:4011–4020.
2. Falini et al. (2005) *N Engl J Med* 352:254–66

Distributed by Abacus dx

1800 ABACUS (AUS) 0800 222 170 (NZ) | info@abacusdx.com | www.abacusdx.com

abacus dx