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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

For Research Use Only (RUO). Not intended for diagnostic purposes.

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ORDERING INFORMATION

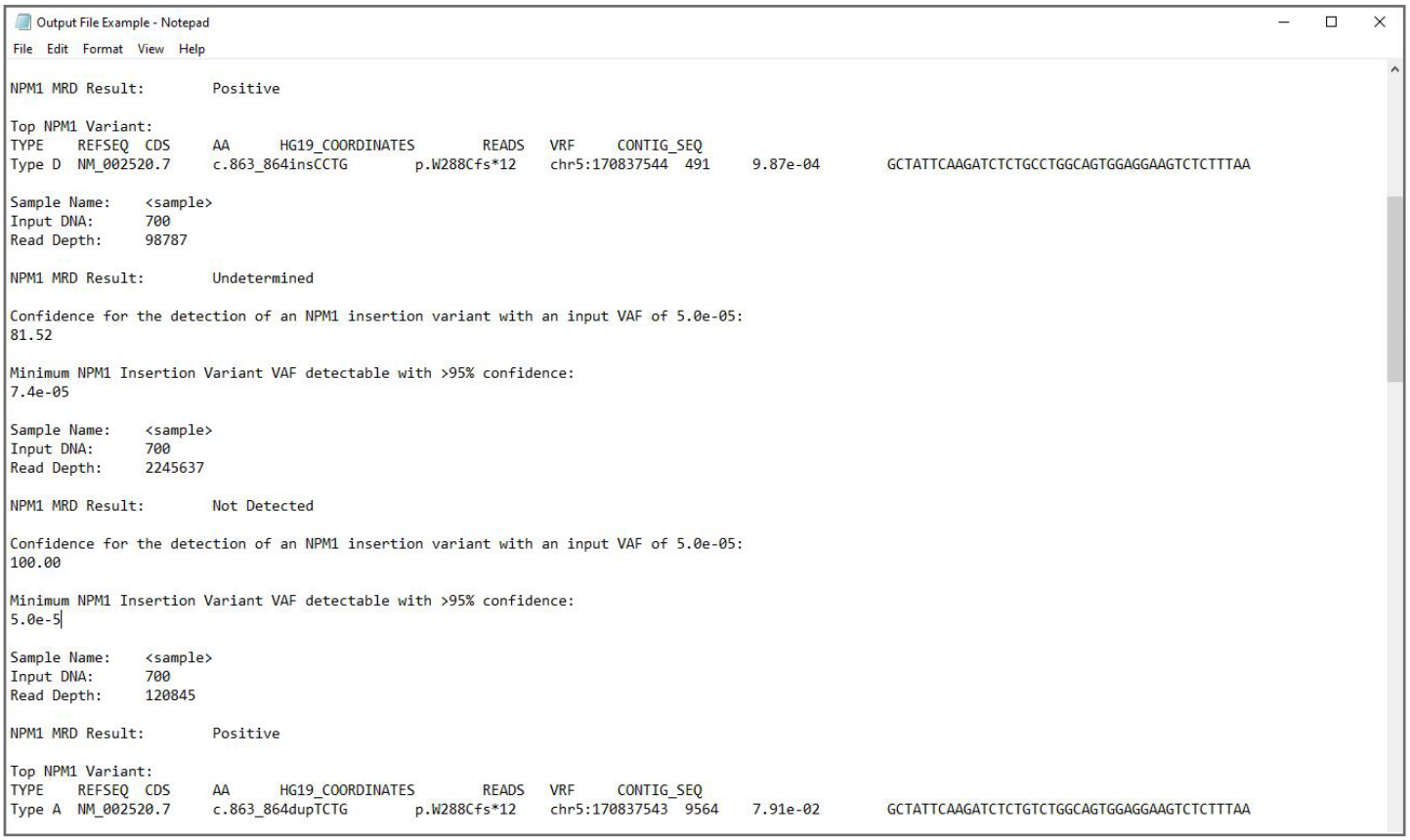
Catalog #	Product	Quantity
14160019	*NPM1* MRD Assay (MiSeq™)	96 reactions
S100004	*NPM1* MRD Software (MiSeq™)	1 Dockerized Application

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