

### PLEASE NOTE:

THESE REAGENTS MUST NOT BE SUBSTITUTED FOR THE MANDATORY POSITIVE AND NEGATIVE CONTROL REAGENTS PROVIDED WITH MANUFACTURED TEST KITS.

### NAME AND INTENDED USE

The Seraseq® Lymphoma DNA Mutation Mix product is a reference material formulated for use with Next Generation Sequencing (NGS) assays that detect somatic mutations in hematologic disorder patient samples. This product is intended for use as a reference material in the development, validation and routine laboratory tests used to detect lymphoma disease gene variants by NGS assays under a given set of bioinformatics pipeline parameters. Product is *For Research Use Only. Not for use in diagnostic procedures.*

### REAGENTS

Material Number	Product Name
0710-2203	Seraseq® Lymphoma DNA Mutation Mix

Product consist of 1 vial; 15 ng/µl concentration; 25 µl fill volume; and 375 ng total DNA mass.

### WARNINGS AND PRECAUTIONS

**For Research Use Only. Not for use in diagnostic procedures.**

CAUTION: Handle Seraseq Lymphoma DNA Mutation Mix product as though it is capable of transmitting infectious agents. This product consists of purified DNA from biosynthetic constructs blended into a background GM24385 WT cell line.

#### Safety Precautions

Use Centers for Disease Control and Prevention (CDC) recommended universal precautions for handling reference materials and human specimens<sup>1</sup>. Do not pipette by mouth. Do not smoke, eat, or drink in areas where specimens are being handled. Clean any spillage by immediately wiping with 0.5% sodium hypochlorite solution. Dispose of all specimens and materials used in testing as though they contain infectious agents.

#### Handling Precautions

Do not use Seraseq Lymphoma DNA Mutation Mix product beyond the expiration date. Avoid contamination of the product when opening and closing the vial.

#### STORAGE INSTRUCTIONS

Store Seraseq Lymphoma DNA Mutation Mix frozen at -20°C. After opening, record the date opened and the expiration date on the vial. Aliquoting of the product into low DNA binding tubes may be advisable to limit the number of freeze-thaw cycles.

#### INDICATIONS OF REAGENT INSTABILITY OR DETERIORATION

Seraseq Lymphoma DNA Mutation Mix is a mixture of human genomic DNA and synthetic DNA constructs. It should appear as a clear liquid. Alterations in this appearance may indicate instability or deterioration of the product and vials should be discarded.

### PROCEDURE

#### Materials Provided

Seraseq Lymphoma DNA Mutation Mix consists of DNA purified from a reference cell line, GM24385, plus constructs containing variants mixed at defined allele frequencies. The purified DNA is present in a 1 mM Tris, 0.1 mM EDTA, pH 8.0 aqueous buffer. Material is ready to use in NGS assays in steps that follow DNA isolation. No further purification or DNA isolation is needed.

#### Materials Required but not Provided

Refer to instructions supplied by manufacturers of the test kits to be used.

#### Instructions for Use

Thaw the product vial on ice. Mix by vortexing to ensure a homogenous solution and spin briefly. Seraseq Lymphoma DNA Mutation Mix may be input directly into library preparation following procedures used for clinical specimens. Refer to your assay procedures in order to determine the amount of material to use.

### EXPECTED RESULTS & INTERPRETATION OF RESULTS

Table 1 indicates each of the somatic mutations represented in the Seraseq Lymphoma DNA Mutation Mix. Detection of mutations may differ across different NGS panels and different test reagent lots. While the presence and frequency of each mutation in this product was confirmed during manufacture using functional NGS and/or digital PCR assays, there may be differences in observed allele frequencies due to assay characteristics. Seraseq Lymphoma DNA Mutation Mix does not have assigned values for allele frequencies of the mutations present in the product. Each laboratory must establish an assay-specific expected value for each mutation and each lot of Seraseq Lymphoma DNA Mutation Mix. When results for the product are outside of the established acceptance range, it may indicate unsatisfactory test performance. Possible sources of error include: deterioration of test kit reagents, operator error, faulty performance of equipment, contamination of reagents, or changes in bioinformatics pipeline parameters. Additional support documents are available by contacting us at [CDx.Marketing@LGCGroup.com](mailto:CDx.Marketing@LGCGroup.com)

### LIMITATIONS OF THE PROCEDURE

Seraseq Lymphoma DNA Mutation Mix MUST NOT BE SUBSTITUTED FOR THE CONTROL REAGENTS PROVIDED WITH MANUFACTURED TEST KITS. *TEST PROCEDURES* provided by manufacturers must be followed closely. Deviations from procedures recommended by test kit manufacturers may produce unreliable results. This product is offered for Research Use Only. Not for use in diagnostic procedures. Data are provided for informational purposes. SeraCare Life Sciences does not claim that others can duplicate test results exactly. Seraseq Lymphoma DNA Mutation Mix is not a calibrator and should not be used for assay calibration. These materials are not whole-process controls and do not evaluate the methods used for specimen extraction. Adverse shipping and/or storage conditions or use of outdated product may produce erroneous results.

### REFERENCES

1. Siegel JD, Rhinehart E, Jackson M, Chiarello L, and the Healthcare Infection Control Practices Advisory Committee, 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings.

**Table 1:** List of 26 Lymphoma DNA gene variants in the Seraseq Lymphoma DNA Mutation Mix product.

#	5' partner	3' partner	Variant Type	
1	NPM1	ALK	Translocation	
2	HSP90AA1	BCL6	Translocation	
3	CCND1	CDC42BPB	Translocation	
4	BIRC3	MALT1	Translocation	
5	MYC	IGH	Translocation	
6	TBL1XR1	TP63	Translocation	
#	Gene	Nucleic acid change	Amino Acid Change	Variant Type
7	BCL2	c.302G>C	p.G101A	SNV
8	BRAF	c.1799T>A	p.V600E	SNV
9	DNMT3A	c.2645G>A	p.R882H	SNV
10	EZH2	c.1922A>T	Y641F	SNV
11	IDH2	c.515G>A	p.R172K	SNV
12	MYD88	c.794T>C	p.L265P	SNV
13	CXCR4	c.1013C>G	p.S338X	SNV
14	CXCR4	c.1013C>A	p.S338X	SNV
15	NOTCH1	c.7541_7542del	p.P2514Rfs*4	Del
16	NOTCH2	c.7198C>T	p.R2400*	SNV
17	RHOA	c.50G>T	p.G17V	SNV
18	SF3B1	c.2098A>G	p.K700E	SNV
19	STAT3	c.1919A>T	p.Y640F	SNV
20	STAT3	c.1982A>T	p.D661V	SNV
21	STAT3	c.1940A>T	p.N647I	SNV
22	STAT5B	c.1994A>T	p.Y665F	SNV
23	STAT5B	c.1924A>C	p.N642H	SNV
24	TP53	c.743G>A	p.R248Q	SNV
25	TP53	c.820del	p.V274Ffs*71	Del
26	TP53	c.818G>A	p.R273H	SNV