


GeneScan™ 600 LIZ™ Size Standard v2.0

SeqStudio™ Flex, SeqStudio™, 3500, 3130, and 3730 series instruments

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 **WARNING!** Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves. Safety Data Sheets (SDSs) are available from [thermofisher.com/support](https://www.thermofisher.com/support).

Product description

The GeneScan™ 600 LIZ™ Size Standard v2.0 is an internal size standard that was developed for use with Applied Biosystems™ fluorescence-based DNA electrophoresis systems. Using an internal size standard enables automated data analysis, and is essential for achieving high run-to-run precision in sizing DNA fragments by electrophoresis.

The GeneScan™ 600 LIZ™ Size Standard v2.0 is designed to size DNA fragments in the 55–600 nucleotide range and provides 36 single-stranded labeled fragments of: 20, 40, 60, 80, 100, 114, 120, 140, 160, 180, 200, 214, 220, 240, 250, 260, 280, 300, 314, 320, 340, 360, 380, 400, 414, 420, 440, 460, 480, 500, 514, 520, 540, 560, 580, and 600 nucleotides.

The sizing curve generated from the fragments makes the GeneScan™ 600 LIZ™ Size Standard v2.0 ideal for fragment analysis applications such as microsatellites, fragment-length polymorphisms, and relative fluorescent quantification. Each DNA fragment is labeled with the LIZ™ fluorophore as the size standard, which results in a single peak when run under denaturing conditions.

This size standard is compatible with Dye Sets E5, G5, J6, and J6-T.

Contents and storage

Contents	Amount	Storage
GeneScan™ 600 LIZ™ Size Standard v2.0	2 × 200 µL (~800 reactions) ^[1]	Store at 2–8°C, protected from light. Do not freeze. ^[2]

^[1] The total number of reactions may vary depending on the specific application. This number is based on the volumes specified in this document.

^[2] See packaging for expiration date. Do not use expired product.

Procedural guidelines

To optimize the analysis on capillary electrophoresis instruments, note the following:

- Use the size standard within 2 hours of preparation.
- Fragment analysis primer peaks can often interfere with the detection of the 35-bp peak. If this occurs, copy the size standard definition and save it as a custom standard, then delete the 35-bp peak. Similarly, if the largest fragments are not collected with the run module that you are using, you can delete the largest fragments in a custom size standard definition.

Prepare the sample

1. Thoroughly mix the contents of the tube, then briefly centrifuge.
2. Combine the following components for the number of reactions required.

Table 1 SeqStudio™ Flex, SeqStudio™, and 3500 series

Component	Volume (all instruments)		
	Option 1	Option 2	Option 3
DNA sample	0.5 µL	0.25 µL	1.0 µL
Size standard	0.5 µL	0.5 µL	0.5 µL
Hi-Di™ Formamide (Cat. No. 4311320)	9.0 µL	9.25 µL	8.5 µL
Total volume per well	10.0 µL	10.0 µL	10.0 µL

Note: For the SeqStudio™ Flex, SeqStudio™, and 3500 series, you can use the GeneScan™ 600 LIZ™ Size Standard v2.0 as a size standard and as an internal lane normalization standard. If you use GeneScan™ 600 LIZ™ Size Standard v2.0 as a normalization standard, you must use the provided normalization definition file and collection of up to (and including) 400 base fragments.

Table 2 3130/3130xl Genetic Analyzer and 3730xl DNA Analyzer

Component	Volume	
	3730xl instrument	3130 series
DNA sample	0.5 µL	0.5 µL
Size standard	0.5 µL	0.5 µL
Hi-Di™ Formamide (Cat. No. 4311320)	9.0 µL	9.0 µL
Total volume per well	10.0 µL	10.0 µL

Note: We recommend using the ratios of DNA sample (PCR product) and size standard in Table 1 and Table 2 only as a starting point. Optimize these ratios as needed, based on your experimental results.

3. Mix thoroughly, then centrifuge to bring the mixture to the bottom and eliminate air bubbles.
4. To denature the DNA fragments, incubate for 3 minutes at 95°C. Immediately place the mixture on ice for ≥2 minutes.

For information on setting up the run, see the instrument user guide.

Limited product warranty

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For descriptions of symbols on product labels or product documents, go to thermofisher.com/symbols-definition.

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Revision history: Pub. No. 4425787

Revision	Date	Description
C	2 February 2022	Added the SeqStudio™ Flex Series Genetic Analyzer and SeqStudio™ Genetic Analyzer. Changed "internal lane size standard" to "internal size standard". Added dye set compatibility. Updated guidelines. Consolidated "Prepare the sample" into a single procedure. Removed the 3100 and 310 series instruments. Changed the manufacturing address to Vilnius.
B	30 June 2015	Baseline for this revision.

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