GeneScan™ 500 LIZ™ Size Standard

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

Catalog Numbers 4322682

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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.

Product description

The GeneScan™ 500 LIZ™ Dye Size Standard is an internal size standard for use with Applied Biosystems™ fluorescence-based DNA electrophoresis systems. An internal size standard enables automated data analysis during electrophoresis and precise DNA fragment size comparisons between electrophoresis runs. The GeneScan™ 500 LIZ™ Dye Size Standard sizes DNA fragments in the 35–500-bp range and provides 16 single-stranded, dye-labeled fragments of 35, 50, 75, 100, 139, 150, 160, 200, 250, 300, 340, 350, 400, 450, 490, and 500 bases. Each DNA fragment is labeled with the LIZ™ fluorophore, 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™ 500 LIZ™ Dye Size Standard	2 × 200 µL (400 reactions/tube; 800 reactions total)[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] The product is stable for 1 year upon receipt.

Procedural guidelines

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

- Use the size standard within 2 hours of preparation.
- The 250-bp peak is sensitive to small temperature variations. Do not use the 250-bp fragment when defining the size standard in the GeneMapper™ Software.
- The 340-bp peak is subject to large temperature variations.
- 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.

Component	Volume				
	SeqStudio™ Flex	SeqStudio™	3500 series	3730 series	3130 series
DNA sample	0.5 µL	0.5 µL	0.5 µL	0.5 µL	0.5 µL
Size standard	0.25 µL	0.25 µL	0.25 µL	0.5 µL	0.25 µL
Hi-Di™ Formamide (Cat. No. 4311320)	9.25 µL	9.25 µL	9.25 µL	9.0 µL	9.25 µL
Total volume per well	**10.0 µL**	**10.0 µL**	**10.0 µL**	**10.0 µL**	**10.0 µL**

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

3. 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.

Note: Discard any unused reagent that has been diluted in Hi-Di™ Formamide.

Limited product warranty

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Life Technologies Ltd | 7 Kingsland Grange | Woolston, Warrington WA1 4SR | United Kingdom
For descriptions of symbols on product labels or product documents, go to thermofisher.com/symbols-definition.

The information in this guide is subject to change without notice.

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Revision history: Pub. No. 4363115

Revision	Date	Description
D	2 February 2022	Added the SeqStudio™ Flex Series Genetic Analyzer and SeqStudio™ Genetic Analyzer. Removed the 3100 and 310 series instruments. Added dye set compatibility. Added the manufacturing address. Made format, style, and legal updates.
C	13 December 2012	Baseline for this revision history