

# BigDye™ Terminator v3.1 Matrix Standards Kit

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

Catalog Number 4336974

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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](http://thermofisher.com/support).

**Note:** For safety and biohazard guidelines, see the “Safety” appendix in the the instrument user guide. Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

## Product description

The BigDye™ Terminator v3.1 Matrix Standards Kit is used to perform spectral calibrations. The matrix standard contains four sizes of DNA fragments, each size labeled with a different fluorescent dye. The matrix standard can be used to perform spectral calibrations on the following instruments:

- SeqStudio™ Flex Series Genetic Analyzer
- SeqStudio™ Genetic Analyzer
- 3500/3500xL Genetic Analyzer
- 3130/3130xL Genetic Analyzer

The kit contains Dye Set Z, which defines the number, dye color, and migration order of the dye peaks in the sample.

## Contents and storage

Contents	Amount	Storage
BigDye™ Terminator v3.1 Matrix Standards	1 tube	Store at 2–8°C, protected from light. <sup>[1]</sup> Do not freeze.

<sup>[1]</sup> Upon receipt, the kit is stable for 6 months when stored appropriately.

## Required materials not supplied

Item	Cat. No.	
Hi-Di™ Formamide	4311320	
MicroAmp™ Fast Optical 96-Well Reaction Plate, 0.1 mL	4346907	
MicroAmp™ Optical 96-Well Reaction Plate	N8010560	
MicroAmp™ Optical 384-Well Reaction Plate	4343370	
<b>Septa</b>		
SeqStudio™ Flex and 3500 series	8-Strip Septa 3500/Flex Series (Qty 24)	4410701
	96-Well Septa 3500/Flex Series	4412614
	384-Well Septa 3500/Flex Series	4412520
SeqStudio™	Septa for SeqStudio™ Genetic Analyzer, 96 well	A35641
3130 series	Plate Septa, 96 well	4315933

## Guidelines for use

- For more information on the use of matrix standards, see the instrument user guide or *DNA Fragment Analysis by Capillary Electrophoresis User Guide* (Pub. No. 4474504).
- **IMPORTANT!** Thoroughly mix the contents of the matrix standard tubes, then briefly centrifuge before use.
- To prepare the matrix standard dilution, combine the appropriate volumes of matrix standard and Hi-Di™ Formamide (Cat. No. 4311320). Dilution volumes vary depending on the specific application and instrument.
- Do not prepare the matrix standard more than 2 hours in advance.
- **IMPORTANT!** Discard any unused reagent that has been diluted in Hi-Di™ Formamide.

## Prepare the standard

1. Combine the volumes of matrix standard and Hi-Di™ Formamide appropriate for the instrument. See “Component volumes and well locations for the prepared standard” on page 2.
2. Mix thoroughly, then centrifuge to bring the mixture to the bottom and eliminate air bubbles.
3. To denature the DNA fragments, incubate the mixture at 95°C for 2 minutes. Immediately place the mixture on ice.
4. Dispense the prepared standard into the appropriate wells of a reaction plate. See “Component volumes and well locations for the prepared standard” on page 2.
5. Cover the plate with septa, then centrifuge to bring the mixture to the bottom and eliminate air bubbles.
6. Assemble the plate with the retainer and base, then load on the instrument.

**Note:** The SeqStudio™ Genetic Analyzer does not require a retainer and base.

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

**Note:** For dye set selection on the SeqStudio™ Flex and SeqStudio™ instruments, ensure that you select the **Matrix** tab before you select the dye set.

## Component volumes and well locations for the prepared standard

Table 1 SeqStudio™ Flex Series Genetic Analyzer

Component	Volume		Well location for the prepared standard	
	8-capillary array	24-capillary array	96-well plate	384-well plate
Matrix standard	3 µL	6 µL	Dispense 10 µL of the prepared standard into wells of a 96-well plate: <ul style="list-style-type: none"> <li>• <b>8-capillary array</b>—8 wells: A1–H1</li> <li>• <b>24-capillary array</b>—24 wells: A1–H3</li> </ul>	Dispense 5 µL of the prepared standard into wells of a 384-well plate: <ul style="list-style-type: none"> <li>• <b>24-capillary array</b>—24 wells (for example, A1, A3, A5; C1, C3, C5; E1, E3, E5; G1, G3, G5; I1, I3, I5; K1, K3, K5; M1, M3, M5; O1, O3, O5)</li> </ul>
Hi-Di™ Formamide	147 µL	294 µL		
<b>Total volume</b>	<b>150 µL</b>	<b>300 µL</b>		

Table 2 SeqStudio™ Genetic Analyzer

Component	Volume	Well location for the prepared standard
	4-capillary array	
Matrix standard	1 µL	Dispense 10 µL of the prepared standard into wells of a 96-well plate: 4 wells: A1–D1
Hi-Di™ Formamide	49 µL	
<b>Total volume</b>	<b>50 µL</b>	

Table 3 3500/3500xL Genetic Analyzer

Component	Volume		Well location for the prepared standard
	8-capillary array	24-capillary array	
Matrix standard	12 µL	12 µL	<b>Data Collection Software v3 and later:</b> Dispense 10 µL of the prepared standard into wells of a 96-well plate: <ul style="list-style-type: none"> <li>• <b>8-capillary array</b>—8 wells (for example, A1–H1)</li> <li>• <b>24-capillary array</b>—24 wells (for example, A1–H3, A4–H6, A7–H9, or A10–H12)</li> </ul> <b>Note:</b> If you place the standard in wells that do not correspond to injection position 1, specify the starting well position in the software. <b>Data Collection Software v1, v1.1, and v2:</b> Dispense 10 µL of the prepared standard into wells of a 96-well plate: <ul style="list-style-type: none"> <li>• <b>8-capillary array</b>—8 wells: A1–H1</li> <li>• <b>24-capillary array</b>—24 wells: A1–H3</li> </ul>
Hi-Di™ Formamide	238 µL	238 µL	
<b>Total volume</b>	<b>250 µL</b>	<b>250 µL</b>	

Table 4 3130/3130xL Genetic Analyzer

Component	Volume			Well location for the prepared standard
	36-cm array	50-cm array	80-cm array	
<b>16-capillary array</b>				
Matrix standard	10 µL	5 µL	10 µL	Dispense 10 µL of the prepared standard into wells of a 96-well plate: <b>16-capillary array</b> —16 wells: A1–H2
Hi-Di™ Formamide	190 µL	195 µL	190 µL	
<b>Total volume</b>	<b>200 µL</b>	<b>200 µL</b>	<b>200 µL</b>	
<b>4-capillary array</b>				
Matrix standard	2.5 µL	2.5 µL	2.5 µL	Dispense 10 µL of the prepared standard into wells of a 96-well plate: <b>4-capillary array</b> —4 wells: A1–D1
Hi-Di™ Formamide	47.5 µL	97.5 µL	47.5 µL	
<b>Total volume</b>	<b>50 µL</b>	<b>100 µL</b>	<b>50 µL</b>	

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**Revision history:** Pub. No. 4363117

Revision	Date	Description
E	2 February 2022	Added the SeqStudio™ Flex Series Genetic Analyzer. Added required materials table. Consolidated "Prepare the standard" into one procedure for all instruments. Added "Component volumes and well locations for the prepared standard".
D	05 October 2021	Volumes for 3500 were corrected.
C	05 November 2018	Updated instrumentation. Updated licensing, trademarks, general style and format.
B	18 August 2009	Baseline for this revision

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