DS-02 Matrix Standard Kit (Dye Set E5)

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

Catalog Number 4323014

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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 DS-02 Matrix Standard Kit (Dye Set E5) is used to perform spectral calibrations when analyzing DNA fragments labeled with dR110™, dR6G™, dTAMRA™, dROX™, and LIZ™ dyes. (The LIZ™ dye is used to label the size standard.) The matrix standard contains five DNA fragments. Each fragment is labeled with a different dye from the dye set.

For more information on spectral calibration, see the *DNA Fragment Analysis by Capillary Electrophoresis User Guide* (Pub. No. 4474504).

Contents and storage

Contents	Amount	Storage
DS-02 Matrix Standard in TE buffer	1 tube	Store at 2–8°C, protected from light.[1] Do not freeze.

[1] The kit is stable for 1 year when stored at 2–8°C.

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
Septa		
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
3730 series	Plate Septa, 96 well	4315933
	Plate Septa, 384 well	4315934
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 getting started guide.
- 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 instrument.
- Use the matrix standard within 2 hours of preparation.
- Do not add size standard to the matrix standard.
- Discard any unused reagent that has been diluted in Hi-Di™ Formamide.

Prepare the standard

1. Vortex the matrix standard tube for 5–10 seconds to mix, then centrifuge for 3–5 seconds to bring the mixture to the bottom and eliminate air bubbles.
2. Combine the volumes of matrix standard and Hi-Di™ Formamide appropriate for the instrument. See “Component volumes and well location for the prepared standard” on page 2.
3. Vortex for 5–10 seconds, then centrifuge for 3–5 seconds.
4. Dispense the prepared standard into the appropriate wells of a reaction plate. See “Component volumes and well location for the prepared standard” on page 2.
5. Cover the plate with adhesive film, then centrifuge for 3–5 seconds.
6. Denature the DNA fragments:
   a. Incubate the mixture at 95°C for 5 minutes.
   b. Incubate the mixture at 4°C, or on ice, for ≥2 minutes.
7. Remove the adhesive film, then cover the plate with septa.
8. Centrifuge for 3–5 seconds.
9. 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.
10. Immediately perform the spectral calibration.

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

Component volumes and well location 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
DS-02 Matrix Standard	2 µL	6 µL	Dispense 10 µL of the prepared standard into wells of a 96-well plate: • **8-capillary array**—8 wells (for example, A1–H1) • **24-capillary array**—24 wells (for example, A1–H3, A4–H6, A7–H9, or A10–H12)	Dispense 5 µL of the prepared standard into wells of a 384-well plate: **24-capillary array**—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)
Hi-Di™ Formamide	98 µL	294 µL		
Total volume	**100 µL**	**300 µL**		

Table 2 SeqStudio™ Genetic Analyzer

Component	Volume	Well location for the prepared standard
	4-capillary array	
DS-02 Matrix Standard	1 µL	Dispense 10 µL of the prepared standard into wells of a 96-well plate: 4 wells (for example, A1–D1)
Hi-Di™ Formamide	49 µL	
Total volume	**50 µL**	

Table 3 3500/3500xL Genetic Analyzer

Component	Volume		Well location for the prepared standard
	8-capillary array	24-capillary array	
DS-02 Matrix Standard	3 µL	3 µL	**Data Collection Software v3 and later:** Dispense 10 µL of the prepared standard into wells of a 96-well plate: • **8-capillary array**—8 wells (for example, A1–H1) • **24-capillary array**—24 wells (for example, A1–H3, A4–H6, A7–H9, or A10–H12) **Note:** If you place the standard in wells that do not correspond to injection position 1, specify the starting well position in the software. **Data Collection Software v1, v1.1, and v2:** Dispense 10 µL of the prepared standard into wells of a 96-well plate: • **8-capillary array**—8 wells: A1–H1 • **24-capillary array**—24 wells: A1–H3
Hi-Di™ Formamide	247 µL	247 µL	
Total volume	**250 µL**	**250 µL**	

Table 4 3730/3730xl DNA Analyzer

Component	Volume			Well location for the prepared standard
	48-capillary array		96-capillary array	
	Standard configuration	Reduced cross-talk (RCT) configuration[1]	Reduced cross-talk (RCT) configuration[1]	
DS-02 Matrix Standard	7 µL	13 µL	13 µL	Dispense 10 µL of the prepared standard into wells of a 96-well plate: • **48-capillary array**—48 wells (odd columns only): A1–H1, A3–H3, A5–H5, A7–H7, A9–H9, A11–H11 • **96-capillary array**—96 wells
Hi-Di™ Formamide	993 µL	987 µL	987 µL	
Total volume	**1,000 µL**	**1,000 µL**	**1,000 µL**	

[1] **For 3730/3730xl Data Collection Software only when running the RCT configuration:** Select dye set **Any5Dye-RCT** to perform fragment analysis in applications with a high dynamic range (large peaks with a signal intensity that is much higher than the signal intensity of small peaks).

Table 5 3130/3130*x*/ Genetic Analyzer

Component	Volume		Well location for the prepared standard
	36-cm array	50-cm array	
DS-02 Matrix Standard	5 µL	5 µL	Dispense 10 µL of the prepared standard into wells of a 96-well plate: • **16-capillary array**—16 wells: A1–H2 • **4-capillary array**—4 wells: A1–D1
Hi-Di™ Formamide	195 µL	195 µL	
Total volume	**200 µL**	**200 µL**	

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. 4363121

Revision	Date	Description
F	31 January 2022	Added information for the SeqStudio™ Flex Series Genetic Analyzer. Added required materials table.
E	10 April 2020	Corrected error to the 3500 series instrument volumes introduced in Rev. C; reverted to Rev. B volumes. Added vortex and centrifuge times. Added information for Data Collection Software v1, v1.1, and v2. Updated format and licensing.
D	2 November 2018	Updated the compatible instruments and the manufacturing information.
C	18 August 2009	Baseline for this revision history