


DS-33 GeneScan™ Installation Standards with GeneScan™ 600 LIZ™ Size Standard v2.0

SeqStudio™, 3500, 3130, 3730, and 310 series instruments

Catalog Numbers 4376911

Pub. No. 4376923 Rev. E

 **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-33 GeneScan™ Installation Standards with GeneScan™ 600 LIZ™ Size Standard v2.0 is used to verify instrument performance. The Installation Standards consist of pooled PCR products that are labeled with 6-FAM™, VIC™, NED™, and PET™ dyes. To generate the pooled products, control DNA (from CEPH individual 1347-02) has been amplified with 8 fluorescently-labeled PCR primer pairs that amplify selected microsatellite loci.

Table 1 Average loci sizes for DS-33 GeneScan™ Installation Standards with GeneScan™ 600 LIZ™ Size Standard v2.0 (base pairs)

Locus	POP-4™ polymer				POP-6™ polymer		POP-7™ polymer						SeqStudio™ Cartridge Polymer	
	310 sizes (bp)		3130 series sizes (bp)		3500 series sizes (bp)		3130 series sizes (bp)		3730 series sizes (bp)		3500 series sizes (bp)		SeqStudio™ sizes (bp)	
D20S119 [FAM™]	112 bp	117 bp	112 bp	117 bp	112 bp	118 bp	112 bp	117 bp	112 bp	117 bp	112 bp	118 bp	114 bp	120 bp
D9S1690 [FAM™]	239 bp	242 bp	239 bp	242 bp	236 bp	238 bp	239 bp	242 bp	239 bp	242 bp	236 bp	238 bp	237 bp	239 bp
D5S644 [VIC™]	84 bp	96 bp	84 bp	96 bp	84 bp	96 bp	84 bp	96 bp	84 bp	96 bp	83 bp	95 bp	85 bp	97 bp
D5S424 [VIC™]	218 bp	220 bp	218 bp	220 bp	216 bp	218 bp	218 bp	220 bp	218 bp	220 bp	215 bp	217 bp	216 bp	218 bp
D9S288 [NED™]	137 bp	145 bp	137 bp	145 bp	137 bp	145 bp	137 bp	145 bp	137 bp	145 bp	136 bp	144 bp	138 bp	145 bp
D6S289 [PET™]	173 bp	175 bp	173 bp	175 bp	171 bp	173 bp	173 bp	175 bp	173 bp	175 bp	171 bp	173 bp	171 bp	173 bp
D15S117 [PET™]	339 bp	341 bp	339 bp	341 bp	336 bp	338 bp	339 bp	341 bp	339 bp	341 bp	336 bp	338 bp	337 bp	339 bp
D18S462 [NED™]	303 bp ^[1]				302 bp ^[1]		303 ^[1]				302 bp ^[1]		303 ^[1]	

^[1] Homozygous locus.

Contents and storage

Contents	Amount	Storage
GeneScan™ Installation Standard DS-33	4 tubes	-25°C to -15°C
GeneScan™ 600 LIZ™ Size Standard v2.0	1 tube	2-8°C, protected from light

IMPORTANT! See the expiration date on the package. Do not use expired product.

Prepare the installation reagent: SeqStudio™ Genetic Analyzer

- Resuspend the contents of the GeneScan™ Installation Standards DS-33 and the GeneScan™ 600 LIZ™ Size Standard v2.0 tube, then centrifuge briefly to collect contents.
- Prepare the installation reagent in a microcentrifuge tube:

Component	Volume (4-capillary cartridge)
GeneScan™ Installation Standard DS-33	2 µL
GeneScan™ 600 LIZ™ Size Standard v2.0	4 µL
Hi-Di™ Formamide (Cat. No. 4311320)	74 µL
Total	80 µL

IMPORTANT! Use the installation reagent within 16 hours of preparation.

- Vortex for 30–60 seconds to mix, then centrifuge briefly.
- Denature the DNA fragments.
 - Incubate the microcentrifuge tube at 95°C for 5 minutes.
 - Incubate the microcentrifuge tube at 4°C, or on ice, for 2 minutes. Immediately proceed to the next step.
- Transfer installation reagent to a 96-well plate. Dispense 10 µL into each well.
- Cover the plate with a 96-well septa (Cat. No. 4315933).
 - Align the holes on the septa with the wells of the plate.
 - Press down firmly on the septa until the septa lies flat on the plate.
- Centrifuge the plate for 1 minute to bring the mixture to the bottom of the wells and eliminate air bubbles.
- Immediately start the run.

See the instrument user guide for information on setting up the run.

Prepare the installation reagent: 3500/3500xL Genetic Analyzer

- Resuspend the contents of the GeneScan™ Installation Standard DS-33 and the GeneScan™ 600 LIZ™ Size Standard v2.0 tube, then centrifuge briefly to collect contents.
- Prepare the installation reagent in a microcentrifuge tube:

Component	Volume (24-capillary array)
GeneScan™ Installation Standard DS-33	7 µL
GeneScan™ 600 LIZ™ Size Standard v2.0	14 µL
Hi-Di™ Formamide (Cat. No. 4311320)	259 µL
Total	280 µL

IMPORTANT! Use the installation reagent within 16 hours of preparation.

- Vortex for 30–60 seconds to mix, then centrifuge briefly.
- Denature the DNA fragments.
 - Incubate the microcentrifuge tube at 95°C for 5 minutes.
 - Incubate the microcentrifuge tube at 4°C, or on ice, for 2 minutes. Immediately proceed to the next step.
- Transfer installation reagent to a 96-well plate. Dispense 10 µL into each well.
 - For 24-capillary instruments, use wells A1 through H3.
 - For 8-capillary instruments, use wells A1 to H1.
- Note:** If you place the standard in other wells, specify the starting well in the software.
- Cover the plate with a 96-well septa (Cat. No. 4315933).
 - Align the holes on the septa with the wells of the plate.
 - Press firmly until the septa snaps into position.
- Centrifuge the plate for 1 minute to bring the mixture to the bottom of the wells and eliminate air bubbles.
- Immediately start the run.

See the instrument user guide for information on setting up the run.

Prepare the installation reagent: 3130/3130x/ Genetic Analyzer

1. Resuspend the contents of 1 tube of the GeneScan™ Installation Standards DS-33 and the GeneScan™ 600 LIZ™ Size Standard v2.0 tube, then centrifuge briefly to collect contents.
2. Prepare the installation reagent in a microcentrifuge tube:

Component	Volume (16-capillary array) ^[1]
GeneScan™ Installation Standard	5 µL
GeneScan™ 600 LIZ™ Size Standard v2.0	10 µL
Hi-Di™ Formamide	185 µL
Total	200 µL

^[1] For a 4-capillary array, scale down the volumes.

IMPORTANT! Use the installation reagent within 16 hours of preparation.

3. Vortex for 30–60 seconds to mix, then centrifuge briefly.
4. Denature the DNA fragments.
 - a. Incubate the microcentrifuge tube at 95°C for 5 minutes.
 - b. Incubate the microcentrifuge tube at 4°C, or on ice, for 2 minutes. Immediately proceed to the next step.
5. Dispense 10 µL of the installation reagent into a 96-well plate.
 - For 16-capillaries: select wells A1 through H2.
 - For 4-capillaries: select wells A1 to D1.
6. Centrifuge the plate for 1 minute to bring the mixture to the bottom of the wells and eliminate air bubbles.
7. Cover the plate with a 96-well septa (Cat. No. 4315933).
 - a. Align the holes on the septa with the wells of the plate.
 - b. Press down firmly on the septa until the septa lies flat on the plate.
8. Immediately start the run.

See the instrument user guide for information on setting up the run.

Prepare the installation reagent: 3730/3730xl DNA Analyzer

Note: The G5-RCT dye set is recommended for running fragment analysis applications with a 48-capillary array, and required for use with a 96-capillary array.

1. Resuspend the contents of the GeneScan™ Installation Standards DS-33 and the GeneScan™ 600 LIZ™ Size Standard v2.0 tube, then centrifuge briefly to collect contents.
2. Prepare installation reagent in a microcentrifuge tube:

Component	Volume (48-capillary array)	Volume (96-capillary array)
GeneScan™ Installation Standards DS-33	25 µL	50 µL
GeneScan™ 600 LIZ™ Size Standard v2.0	25 µL	50 µL
Hi-Di™ Formamide	450 µL	900 µL
Total	500 µL	1 mL

IMPORTANT! Use the installation reagent within 16 hours of preparation.

3. Vortex for 30–60 seconds to mix, then centrifuge briefly.
4. Denature the DNA fragments.
 - a. Incubate the microcentrifuge tube at 95°C for 5 minutes.
 - b. Incubate the microcentrifuge tube at 4°C, or on ice, for 2 minutes. Immediately proceed to the next step.
5. Dispense installation reagent into a 96- or 384-well optical reaction plate.

Option	Description
96-well optical reaction plate	Dispense 10 µL into every other column (A1-H1, A3-H3,...).
384-well optical reaction plate	Dispense 5 µL into the corresponding wells for a single 48-capillary injection (A1, C1, E1, G1, I1, K1, M1, O1, A5, C5,...).
6. Centrifuge the plate for 1 minute to bring the mixture to the bottom of the wells and eliminate air bubbles.
7. Cover the plate with a 96-well septa (Cat. No. 4315933).
 - a. Align the holes on the septa with the wells of the plate.
 - b. Press down firmly on the septa until the septa lies flat on the plate.
8. Immediately start the run.

See the instrument user guide for information on setting up the run.

Prepare the installation reagent: 310 Genetic Analyzer

1. Resuspend the contents of the installation standard and the size standard tubes, then centrifuge briefly to collect contents.
2. Prepare the size standard in a microcentrifuge tube:

Component	Volume ^[1]
GeneScan™ 600 LIZ™ Size Standard v2.0	0.5 µL
Hi-Di™ Formamide	12.5 µL
Total	13.0 µL

^[1] The volumes are for 1 sample with ~5% overage.

3. Prepare the installation reagent in a microcentrifuge tube:

Component	Volume ^[1]
Size standard/formamide mix from previous step	12.5 µL
GeneScan™ Installation Standard DS-33	1.0 µL
Total	13.5 µL

^[1] The volumes are for 1 sample with ~5% overage.

IMPORTANT! Use the installation reagent within 16 hours of preparation.

4. Vortex for 30-60 seconds to mix, then centrifuge briefly.
5. Denature the DNA fragments.
 - a. Incubate the microcentrifuge tube at 95°C for 5 minutes.
 - b. Incubate the microcentrifuge tube at 4°C, or on ice, for 2 minutes. Immediately proceed to the next step.
6. Dispense 13.0 µL size of the installation reagent into a tube.

7. Immediately start the run.
8. Use the following run modules to run the installation standards (for more information, see *G5v2 Module for Use with Dye Set 33 (DS-33) User Bulletin*, Pub. No. 4339367):
 - GS STR POP4 (1 mL) G5
 - GS STR POP4 (1 mL) G5 V2

See the instrument user guide for information on setting up the run.

Customer and technical support

Visit thermofisher.com/support for the latest service and support information.

- Worldwide contact telephone numbers
- Product support information
 - Product FAQs
 - Software, patches, and updates
 - Training for many applications and instruments
- Order and web support
- Product documentation
 - User guides, manuals, and protocols
 - Certificates of Analysis
 - Safety Data Sheets (SDSs; also known as MSDSs)

Note: For SDSs for reagents and chemicals from other manufacturers, contact the manufacturer.

Limited product warranty

Life Technologies Corporation and/or its affiliate(s) warrant their products as set forth in the Life Technologies' General Terms and Conditions of Sale at www.thermofisher.com/us/en/home/global/terms-and-conditions.html. If you have any questions, please contact Life Technologies at www.thermofisher.com/support.



Thermo Fisher Scientific Baltics UAB | V.A. Graiciuno 8, LT-02241 | Vilnius, Lithuania

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.

DISCLAIMER: TO THE EXTENT ALLOWED BY LAW, THERMO FISHER SCIENTIFIC INC. AND/OR ITS AFFILIATE(S) WILL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE, MULTIPLE, OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH OR ARISING FROM THIS DOCUMENT, INCLUDING YOUR USE OF IT.

Revision history: Pub. No. 4376923

Revision	Date	Description
E	2 November 2018	Updated the manufacturer address and reorganized the content.
D	28 February 2018	Add information for SeqStudio™ Genetic Analyzer, reorganize content.
C	21 June 2006	Update content.

Important Licensing Information: These products may be covered by one or more Limited Use Label Licenses. By use of these products, you accept the terms and conditions of all applicable Limited Use Label Licenses.

©2018 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are the property of Thermo Fisher Scientific and its subsidiaries unless otherwise specified.