

POP-4™, POP-6™, and POP-7™ Polymer for 3500/3500xL Genetic Analyzers

Catalog Number A26070, 4393715, 4393710, A26071, 4393717, 4393712, A26073, 4393708, 4393714

Pub. No. 4408234 Rev. F

Item	Cat. no. (96 samples)	Cat. no. (384 samples)	Cat. no. (960 samples)	Storage (for all polymers)
POP-4™ Polymer	A26070	4393715 ^[1]	4393710 ^[1]	2°C to 8°C
POP-6™ Polymer	A26071	4393717	4393712	
POP-7™ Polymer	A26073	4393708	4393714	

^[1] The polymer has been validated for HID applications.

 **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 polymer is the separation matrix for capillary electrophoresis. It is supplied as a ready-to-use pouch with a radio frequency identification (RFID) tag incorporated into the label. The instrument uses the RFID tag to track polymer usage and expiration.

Expiration date/on-instrument supported limits

The on-instrument life is determined by the limit that is reached first—number of days after first installation, samples run, injections performed, or expiry date. Usage is tracked by the system software.

IMPORTANT! The usage limits are determined by the system software. The limits shown below are for Data Collection Software v3.1. If you are running v3.0 or earlier, refer to the user guide provided with the software or instrument.

IMPORTANT! For the POP-4™ and POP-7™ Polymers (Cat. nos. A26070, 4393715, 4393710, A26073, 4393708, and 4393714), the on-instrument supported limit is 14 days only when the instrument operating temperature is 15 to ≤ 25°C. When the instrument operating temperature is > 25°C, the supported limit is 7 days.

For the POP-6™ Polymers (Cat. nos. A26071, 4393717, and 4393712), the on-instrument supported limit is 14 days when the instrument operating temperature is 15 to 30°C.

Pouch size	Instrument	On-instrument supported limits ^[1]	Guidelines
		Lower of:	
96 samples	8-capillary	14 days, 96 samples, 12 injections, or expiry date	The polymer has been verified for use for up to 14 days on the instrument. The software displays a warning message when a usage limit is met and allows you to continue running. Before doing so, see "Important notice regarding use of consumables that exceed supported limits" on page 2.
	24-capillary	14 days, 96 samples, 5 injections, or expiry date	
384 samples	8-capillary	14 days, 384 samples, 60 injections, or expiry date	
	24-capillary	14 days, 384 samples, 20 injections, or expiry date	
960 samples	8-capillary	14 days, 960 samples, 120 injections, or expiry date	
	24-capillary	14 days, 960 samples, 50 injections, or expiry date	

^[1] The pouch has adequate polymer to support the stated number of samples or injections, plus additional volume to accommodate installation and wizard operations. Multiple pouch installations and/or excessive use of wizards reduce the number of remaining samples and injections. For example, if you run the **total bubble remove** option in the Remove Bubbles wizard more than four times, the number of remaining samples and injections is reduced.

Precautions for use

- Do not reuse a polymer pouch that has been installed on another type of instrument. For example, if you remove a partially used polymer pouch from an 8-capillary instrument, do not reuse that polymer on a 24-capillary instrument.
- If you remove a polymer pouch for storage (2–8°C), place a pouch cap (Cat. no. 4412619) onto the pouch, then place an empty pouch (or conditioning reagent) on the connector to prevent desiccation of any residual polymer on the connector. Follow the instructions in the wizard to ensure proper operation of the pouch and the instrument.

Replenish polymer or change polymer type

1. Check the expiration date on the label to ensure that the polymer is not expired and will not expire during intended use.

IMPORTANT! Do not use if the product is expired, if the pouch or label is damaged, or if the top seal is missing or damaged.

2. Allow the refrigerated polymer to equilibrate to ambient temperature (15–30°C) before use.
3. In the Dashboard, click **Wizards**, then click **Replenish Polymer** (requires 10 to 20 minutes) or **Change Polymer Type** (requires 60 to 70 minutes).
4. Follow the prompts in the Wizard window.
5. When instructed to install the polymer, peel off the seal at the top of the pouch fitment.
Note: You may notice a tiny droplet of polymer inside the fitment (residual from the pouch filling process). This is *not* expected to cause any performance issues.
6. With the RFID label *facing* the instrument, slide the pouch fitment onto the slot of the lever assembly. Push the lever up to snap the pouch into the connector end of the instrument pump.
Note: The RFID label must face the instrument (away from you) to ensure that the RFID information is read accurately by the instrument.
7. In the Dashboard, click **Refresh**, then check the Quick View section for the updated polymer status.

Refer to the instrument user guide for instructions on initiating the runs.

Important notice regarding use of consumables that exceed supported limits

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The use of consumables beyond the supported limits may impact data quality or cause damage to the instrument or capillary array. The cost of repairing such damage is *NOT* covered by any Life Technologies product warranty or service plan. Customer use of expired consumables is at customer's own risk and without recourse to Life Technologies. For example, product warranties do not apply to defects resulting from or repairs required due to misuse, neglect, or accident including, without limitation, operation outside of the environmental or use specifications or not in conformance with Life Technologies instructions for the instrument system, software, or accessories.

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Cathode Buffer Container (CBC) for 3500/3500xL Genetic Analyzers

Catalog Number 4408256

Pub. No. 4408239 Rev. E

Cat. no.	Description	Storage conditions
4408256	Cathode Buffer Container (CBC) 1X running buffer, 4 containers	Store at 2–8°C. The 1X running buffer has been qualified to ship at ambient conditions. For a description of the qualification, visit lifetechnologies.com/ambientbuffers .

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 www.lifetechnologies.com/support.

Product description

The Cathode Buffer Container (CBC) contains 1X running buffer for capillary electrophoresis. The container has two compartments: the left compartment provides the cathode buffer for electrophoresis; the right compartment provides for a capillary wash and spent polymer waste ejection functionality between injections.

The CBC is a ready-to-use, disposable container with a radio frequency identification (RFID) tag incorporated into the label. The instrument uses the RFID tag to track buffer usage and expiration.

Expiration date/on-instrument supported limits

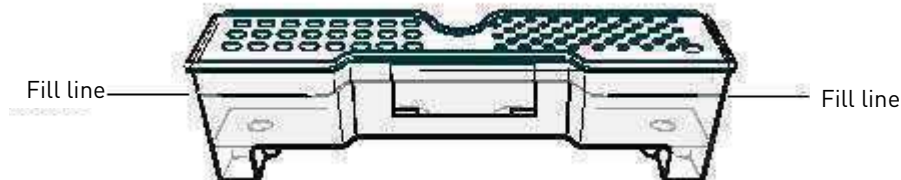
The on-instrument life is determined by the limit that is reached first—number of days after first installation, injections performed, or expiry date. Usage is tracked by the system software.

IMPORTANT! The usage limits are determined by the system software. The limits shown below are for Data Collection Software v3.1. If you are running v3.0 or earlier, refer to the user guide provided with the software or instrument.

Instrument	On-instrument supported limits Lower of:	Guidelines
8-capillary	14 days, 240 injections, or expiry date	The buffer has been verified for use for up to 14 days on the instrument. The software displays a warning message when a usage limit is met and allows you to continue running. Before doing so, see "Important notice regarding use of consumables that exceed supported limits" on page 2.
24-capillary	14 days, 100 injections, or expiry date	

Install the cathode buffer container (CBC)

1. Check the expiration date on the label to ensure it is not expired and will not expire during use.
2. Allow refrigerated CBC to equilibrate to ambient temperature.
3. Wipe away condensation on the CBC exterior with a lint-free tissue. Condensation can cause arcing and termination of the run.
4. Check that seal is intact. Do not use if buffer level is too low or seal has been compromised. A fill tolerance of ± 0.5 mm is acceptable.



5. Tilt the CBC back and forth gently and carefully to ensure that the buffer is evenly distributed across the top of the baffles. If you do not tilt the CBC back and forth, the buffer sticks to the baffles because of surface tension.
6. Verify that the buffer is at or above the fill line.
7. When ready to install CBC, place the container on a flat surface (such as a lab bench) and peel off the seal.
8. Wipe off any buffer on top of the CBC with a lint-free tissue. Ensure that the top of the container is dry. Moisture can cause arcing and termination of a run.

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9. Place the appropriate septum on each side of the CBC:
 - a. Align the buffer septum (the part that is symmetrical) over the 24 holes of the CBC.
 - b. Push the septum lightly into the holes to start and then push firmly to seat it.
 - c. Align the capillary washing septum over the other chamber of the CBC.
 - d. Push the septum lightly into the holes to start and then push firmly to seat it.

IMPORTANT! Look at the CBC from the side and ensure there is no gap between the container and the lip of the septum.

IMPORTANT! Ensure that the washing septum is securely seated to prevent displacement of the septum during operation.

10. Click the Tray button on the front panel to move the autosampler to the front position.
11. With the tab facing you and the RFID tag to the right, install the CBC on the autosampler. When properly installed, the CBC tabs will click as you snap them into place on the autosampler.
12. Click the Tray button to retract the autosampler, then close the instrument door to initialize.
13. In the Dashboard, click **Refresh**, then check the Quick View section for updated status.

Important notice regarding use of consumables that exceed supported limits

BEFORE DISMISSING THE WARNING THAT THE CONSUMABLES HAVE REACHED SUPPORTED LIMITS AND CONTINUING WITH OPERATION OF THE INSTRUMENT, PLEASE READ AND UNDERSTAND THE FOLLOWING IMPORTANT NOTICE AND INFORMATION:

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Anode Buffer Container (ABC) for 3500/3500xL Genetic Analyzers

Catalog Number 4393927

Pub. No. 4408241 Rev. E

Cat. no.	Description	Storage conditions
4393927	Anode Buffer Container (ABC) 1X running buffer, 4 containers	Store at 2–8°C. The 1X running buffer has been qualified to ship at ambient conditions. For a description of the qualification, visit lifetechnologies.com/ambientbuffers .

 **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 www.lifetechnologies.com/support.

Product description

The Anode Buffer Container (ABC) contains 1X running buffer for capillary electrophoresis. The ABC is a ready-to-use, disposable container with a radio frequency identification (RFID) tag incorporated into the label. The instrument uses the RFID tag to track buffer usage and expiration.

Expiration date/on-instrument supported limits

The on-instrument life is determined by the limit that is reached first—number of days after first installation, injections performed, or expiry date. Usage is tracked by the system software.

IMPORTANT! The usage limits are determined by the system software. The limits shown below are for Data Collection Software v3.1. If you are running v3.0 or earlier, refer to the user guide provided with the software or instrument.

Instrument	On-instrument supported limits Lower of:	Guidelines
8-capillary	14 days, 240 injections, or expiry date	The buffer has been verified for use for up to 14 days on the instrument. The software displays a warning message when a usage limit is met and allows you to continue running. Before doing so, see “Important notice regarding use of consumables that exceed supported limits” on page 2.
24-capillary	14 days, 100 injections, or expiry date	

Install the anode buffer container (ABC)

1. Check the expiration date on the label to ensure it is not expired and will not expire during use.
2. Allow the refrigerated ABC to equilibrate to room temperature prior to first use. Do not remove the seal until you have completed step 5.
3. Verify that the seal is intact. Do not use if buffer level is too low or seal has been compromised. A fill tolerance of ± 1 mm is acceptable.
4. Invert the ABC, then tilt it slightly to move most of the buffer to the larger side of the container. The smaller side of the container should contain < 1 mL of the buffer.
5. Verify that the buffer is at the fill line.
6. Peel off the seal at the top of the ABC.
7. With the RFID label toward instrument, place the ABC into the anode-end of the instrument, below the pump. Position the anode in the large chamber of the ABC, then push the ABC up and back to install.

IMPORTANT! The RFID label must be facing the instrument (away from you) to ensure that the RFID information is read accurately by the instrument.

8. Close the instrument door to re-initialize.
9. In the Dashboard, click **Refresh**, then check the Quick View section for updated status.

Important notice regarding use of consumables that exceed supported limits

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Quantifiler® Trio DNA Quantification Kit

Catalog Number 4482910

Pub. No. 4485357 Rev. C

IMPORTANT!

- Thaw reagents completely before first use. To avoid freeze/thaw cycles, store components at 2 to 8°C after initial use.
- Isolate reagents from any source of contaminating DNA, especially from previously amplified PCR products.
- The primer mix contains primers that are labeled with light-sensitive dyes. Protect the primer mix from light; do not leave it exposed on the laboratory bench.
- To obtain optimal amplification and quantification results, follow the procedures in the *Quantifiler® HP and Trio DNA Quantification Kits User Guide* (Pub. no. 4485354).

Note: For safety and biohazard guidelines, refer to the “Safety” appendix in the *Quantifiler® HP and Trio DNA Quantification Kits User Guide* (Pub. no. 4485354). Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

Kit contents and storage

Table 1 Quantifiler® Trio DNA Quantification Kit (Cat. no. 4482910)

Description	Storage conditions ^[1]
Quantifiler® THP PCR Reaction Mix, 4 tubes, 1 mL/tube Contains dNTPs, buffer, enzyme, MUSTANG PURPLE® Passive Reference Standard, and stabilizers.	-15 to -25°C upon receipt. 2 to 8°C after initial use.
Quantifiler® Trio Primer Mix, 4 tubes, 0.8 mL/tube Contains target-specific primers, ABY®, JUN®, VIC®, and FAM™ dye-labeled probes, and Internal PCR Control (IPC) template.	-15 to -25°C upon receipt. 2 to 8°C after initial use. Store protected from light.
Quantifiler® THP DNA Dilution Buffer, 2 tubes, 1.8 mL/tube Contains genomic DNA Standard dilution buffer.	-15 to -25°C upon receipt. 2 to 8°C after initial use.
Quantifiler® THP DNA Standard, 1 tube, 0.12 mL Contains genomic DNA Standard formulated at 100 ng/mL to generate standard curves.	-15 to -25°C upon receipt. 2 to 8°C after initial use.

^[1] See reagent labels for expiration dates

Table 2 Materials required but not included in the kit

Part no.	Part
4485354	<i>Quantifiler® HP and Trio DNA Quantification Kits User Guide</i>

Performance characteristics

The Quantifiler® Trio Kits are developed and manufactured by Thermo Fisher Scientific. We test each lot of kits to ensure that the kits perform according to specifications.

Each kit contains reagents optimized to quantify DNA sample concentrations of 5 pg/μL to 100 ng/μL (depending on the range of DNA quantification standards used). Follow the protocols described in the *Quantifiler® HP and Trio DNA Quantification Kits User Guide* and run the samples on an Applied Biosystems® 7500 Real-Time PCR Instrument.

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29 July 2014



Yfiler™ Plus PCR Amplification Kit (100 and 500 reactions)

Catalog Numbers 4484678 and 4482730

Pub. No. 4485609 Rev. C

Note: For safety and biohazard guidelines, see the “Safety” appendix in the *Yfiler™ Plus PCR Amplification Kit User Guide* (Pub. No. 4485610). Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

Important guidelines

- Thaw reagents completely before first use. Store components at 2–8°C after first use to avoid freeze/thaw cycles.
- Keep reagents away from any source of contaminating DNA, especially from previously amplified PCR products and the allelic ladder.
- The primer set and allelic ladder contain primers that are labeled with light-sensitive dyes. Protect the primers and allelic ladder from light; do not leave them exposed on the laboratory bench.
- To obtain optimal results, follow the procedures in the *Yfiler™ Plus PCR Amplification Kit User Guide* (Pub. No. 4485610).

Contents and storage

The Yfiler™ Plus PCR Amplification Kit contains sufficient quantities of the following reagents to perform: 100 (Cat. No. 4484678) or 500 (Cat. No. 4482730) amplifications at 25 µL/amplification.

Note: If there is more than one tube or bottle for a single reagent, thaw only the number of tubes or bottles required for the current number of reactions.

Table 1 Yfiler™ Plus PCR Amplification Kit

Contents	100 reactions (Cat. No. 4484678)	500 reactions (Cat. No. 4482730)	Storage
Yfiler™ Plus Master Mix Contains MgCl ₂ , dATP, dGTP, dCTP, and dTTP, bovine serum albumin, enzyme, and 0.05% sodium azide in buffer and salt.	2 × 0.5 mL	4 × 1.25 mL	–25°C to –15°C on receipt. 2°C to 8°C after first use.
Yfiler™ Plus Primer Set Contains locus-specific 6-FAM™, VIC™, NED™, TAZ™, and SID™ dye-labeled and unlabeled primers in buffer. The primers amplify the Y-STR loci DYS19, DYS385 a/b, DYF387S1 a/b, DYS389 I/II, DYS390, DYS391, DYS392, DYS393, DYS437, DYS438, DYS439, DYS448, DYS449, DYS456, DYS458, DYS460, DYS481, DYS518, DYS533, DYS570, DYS576, DYS627, DYS635 (Y GATA C4), and Y GATA H4.	2 × 0.25 mL	2 × 1.25 mL	–25°C to –15°C on receipt. 2°C to 8°C after first use. Store protected from light.

Contents	100 reactions (Cat. No. 4484678)	500 reactions (Cat. No. 4482730)	Storage
Yfiler™ Plus Allelic Ladder Contains the following amplified alleles: <ul style="list-style-type: none"> • 6-FAM™ dye (blue): DYS389I 9–17; DYS389II 24–35; DYS576 10–25; DYS627 11–27; DYS635 15–30. • VIC™ dye (green): DYS19 10–19; DYS391 5–16; DYS448 14–24; DYS458 11–24; DYS460 7–14; Y GATA H4 8–15. • NED™ dye (yellow): DYS390 17–29; DYS392 4–20; DYS438 6–16; DYS456 10–24; DYS518 32–49. • TAZ™ dye (red): DYS385 a/b 32–49; DYS437 10–18; DYS449 22–40; DYS570 10–26. • SID™ dye (purple): DYF387S1 a/b 30–44; DYS393 7–18; DYS439 6–17; DYS481 17–32; DYS533 7–17. 	2 × 0.025 mL	2 × 0.05 mL	–25°C to –15°C on receipt. 2°C to 8°C after first use. Store protected from light. IMPORTANT! The allelic ladder contains PCR products. Do not amplify. To avoid contamination, store the allelic ladder separate from the other kit components and unamplified DNA.
DNA Control 007 Contains 2 ng/μL of human male genomic DNA in 0.05% sodium azide and buffer.	1 × 0.05 mL	2 × 0.05 mL	–25°C to –15°C on receipt. 2°C to 8°C after first use.

Required materials not supplied

Unless otherwise indicated, all materials are available through thermofisher.com.

Item	Cat. No.
GeneScan™ –600 LIZ™ Size Standard v2.0, 2 × 200 μL IMPORTANT! Do not use GeneScan™ 350 ROX™, GeneScan™ 500 ROX™, or GeneScan™ 500 LIZ™ Size Standards with this kit.	4408399
Low-TE buffer (10 mM Tris, 0.1 mM EDTA, pH 8.0)	Teknova T0223
Prep-n-Go™ Buffer (for use with buccal swab substrates)	4471406
Prep-n-Go™ Buffer (for use with untreated paper substrates)	4467079

Performance characteristics

The Yfiler™ Plus kits are developed and manufactured by Thermo Fisher Scientific. We test each lot of kits to ensure that the kits perform according to specifications.

Each Applied Biosystems™ Yfiler™ Plus PCR Amplification Kit contains reagents that are optimized to amplify and type:

- 1 ng of DNA Control 007
- Purified and quantified samples with approximately 0.5 to 1.5 ng of human DNA
- Unpurified, unquantified, single-source blood or buccal samples on treated paper, untreated paper, and swab substrates

Follow the protocol in the *Yfiler™ Plus PCR Amplification Kit User Guide* (Pub. No. 4485610) to collect and analyze data on the instruments and software that is supported for use with this kit.

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Revision history: Pub. No. 4485609

Revision	Date	Description
C	10 January 2019	<ul style="list-style-type: none">Throughout the product information sheet, update DYS387S1 to DYF387S1.In Table 1 on page 1, update the number of primer set tubes to 2 tubes for Cat. No. 4484678.
B	27 December 2016	Non-technical changes: reorganized content
A	24 March 2014	New document

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How to Use MicroAmp™ Reaction Plates, Tube Strips, and Tubes

For use with: Applied Biosystems™ thermal cyclers and real-time PCR systems

Publication Number 100033471 Revision A

■ How to use MicroAmp™ plates	1
■ How to use MicroAmp™ tube strips	4
■ How to use MicroAmp™ tubes	6
■ Limited product warranty	7

How to use MicroAmp™ plates

MicroAmp™ plates and accessories

This table is representative of available plastics and other consumables. For a complete list, refer to <http://www.lifetechnologies.com/us/en/home/life-science/pcr/pcr-plastics.html>.

Item	Cat. no. (Quantity)
MicroAmp™ EnduraPlate™ Optical 96-Well Reaction Plate PCR volume range: 10–100 µL (25 µL recommended) Capacity: 200 µL	<ul style="list-style-type: none"> • 4483354 (20 plates; clear) • 4483343 (20 plates; blue) • 4483349 (20 plates; green) • 4483350 (20 plates; red) • 4483395 (20 plates; yellow) • 4483355 (5 plates; assorted colors) • 4483352 (500 plates; clear) • 4483356 (500 plates; assorted colors)
MicroAmp™ Optical 96-Well Reaction Plate with Barcode	<ul style="list-style-type: none"> • 4306737 (20 plates) • 4326659 (500 plates)
MicroAmp™ Optical 96-Well Reaction Plate with Barcode and Optical Adhesive Films	4314320 (100 plates)
MicroAmp™ Optical 96-Well Reaction Plate	<ul style="list-style-type: none"> • 4316813 (500 plates) • N8010560 (10 plates)
MicroAmp™ Optical 8-Cap Strips	4323032 (300 strips)
MicroAmp™ 12-Cap Strip	<ul style="list-style-type: none"> • N8010534 (200 strips) • N8011534 (1,000 strips)

For Research Use Only. Not for use in diagnostic procedures.

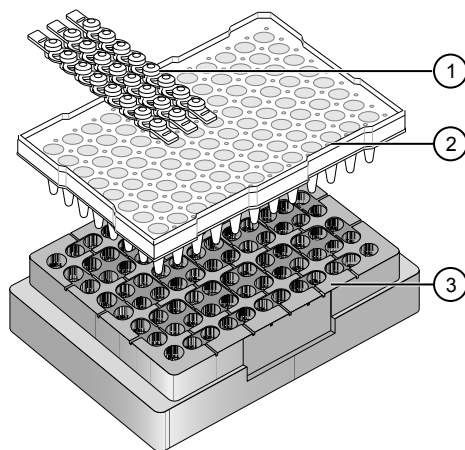
Item	Cat. no. (Quantity)
MicroAmp™ 8-Cap Strip, clear	N8010535 (300 strips)
MicroAmp™ 8-Cap Strip, assorted colors	N8010835 (300 strips of assorted colors)
MicroAmp™ 12-Cap Strip, assorted colors	N8010834 (200 strips of assorted colors)
MicroAmp™ Clear Adhesive Film	4306311 (100 films)
MicroAmp™ Optical Adhesive Film	<ul style="list-style-type: none"> • 4311971 (100 films) • 4360954 (25 films)
MicroAmp™ Splash Free 96-Well Base	4312063 (10 bases)
MicroAmp™ Adhesive Film Applicator	4333183 (5 applicators)
MicroAmp™ Cap Installing Tool (Handle)	4330015 (1 tool)

Fill, seal, and load reaction plates

1. Place the reaction plate on a splash-free 96-well base.
2. Pipette the samples into the sample wells.
3. Seal the plates using one of the following:
 - MicroAmp™ Cap Strips. See “Seal plates with cap strips” on page 2.
 - MicroAmp™ Adhesive Film. See “Seal plates with adhesive covers” on page 3.
4. Place the sealed reaction plate into the instrument without the splash-free base.

Seal plates with cap strips

1. Align and place the MicroAmp™ Cap Strip on the appropriate wells on the MicroAmp™ Optical 96-Well Reaction Plate.



- ① MicroAmp™ 8-Cap Strip
- ② MicroAmp™ Optical 96-Well Reaction Plate 0.2-mL
- ③ MicroAmp™ Splash Free 96-Well Base

2. Seal the cap strips using the rocking capping tool:



- a. Slip your fingers through the handle with the holes in the tool facing down.
- b. Place the holes in the tool over the first eight caps in a row.
- c. Rock the tool back and forth a few times to seal the caps.
- d. Repeat for remaining caps in the row, then for all remaining rows.

Seal plates with adhesive covers

IMPORTANT! Apply significant downward pressure on the applicator in all steps to form a complete seal on top of the wells. Pressure is required to activate the adhesive on the optical cover.

1. Remove the backing of the adhesive film.
2. Align the adhesive film so as to cover all wells while placing on the plate, then rub the flat edge of the applicator back and forth along the long edge of the plate.

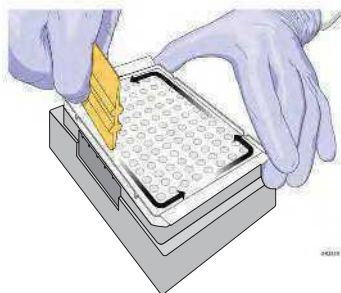


3. Rub the flat edge of the applicator back and forth along the short edge (width) of the plate.



4. Rub the end of the applicator horizontally and vertically between all wells.

5. Rub the end of the applicator around all outside edges of the plate using small back and forth motions to form a complete seal around the outside wells.



How to use MicroAmp™ tube strips

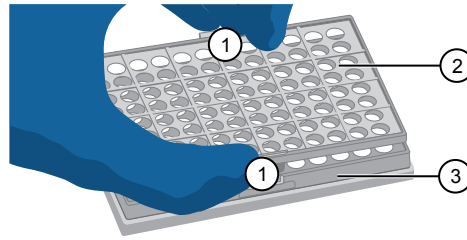
MicroAmp™ tube strips and accessories

This table is representative of available plastics and other consumables. For a complete list, refer to <http://www.lifetechnologies.com/us/en/home/life-science/pcr/pcr-plastics.html>.

Consumables	Cat. no. (Quantity)
MicroAmp™ 8-Tube Strip (0.2 mL) PCR volume range: 10–100 µL (25 µL recommended) Capacity: 200 µL	<ul style="list-style-type: none">• N8010580 (125 tube strips)• N8010838 (120 tube strips; assorted colors)
MicroAmp™ 96-Well Tray/ Retainer Set Capacity: 96 wells	4381850 (10 tray/retainer sets)
MicroAmp™ 8-Cap Strip Natural color, dome cap.	N8010535 (300 strips)
MicroAmp™ 8-Cap Strip, assorted colors Assorted color, dome cap.	N8010835 (300 strips)
MicroAmp™ Splash Free 96-Well Base	4312063 (10 bases)
MicroAmp™ Cap Installing Tool (Handle)	4330015 (1 tool)

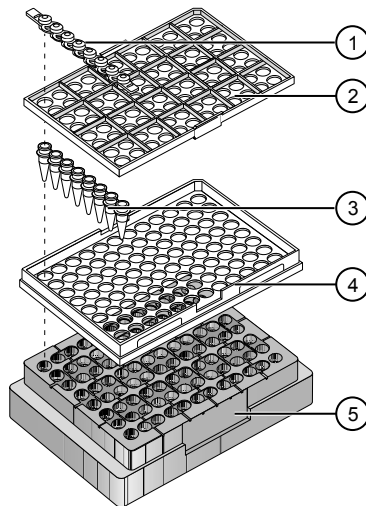
Fill, seal, and load tube strips

1. Separate the tray from the retainer by releasing the catch as indicated in the graphic.



- ① Release catch
- ② MicroAmp™ 96-Well Retainer
- ③ MicroAmp™ 96-Well Tray

2. Place the tray on the splash-free 96-well base.
3. Load the tube strips on the tray.
4. Place the retainer over the tubes.
5. Pipette the sample into the tubes.
6. Seal the tube strip using the MicroAmp™ strip caps. See “ Seal tubes strips with cap strips” on page 6 for instructions.
7. Remove the splash-free base and place the sealed tube strips along with the retainer into the instrument.



- ① MicroAmp™ 8-Cap strip
- ② MicroAmp™ 96-Well Retainer
- ③ MicroAmp™ 8-Tube Strip (0.2-mL) or MicroAmp™ Reaction Tube without Cap (0.2-mL)
- ④ MicroAmp™ 96-Well Tray
- ⑤ MicroAmp™ Splash Free 96-Well Base

Seal tubes strips with cap strips

IMPORTANT! Apply significant downward pressure on the sealing tool in all steps to form a complete seal on top of the tubes.

1. Align and place the cap strips on the tubes.
2. Seal the cap strips using the rocking capping tool:



- a. Slip your fingers through the handle with the holes in the tool facing down.
- b. Place the holes in the tool over the first eight caps in a row.
- c. Rock the tool back and forth a few times to seal the caps.
- d. Repeat for remaining caps in the row, then for all remaining rows.

How to use MicroAmp™ tubes

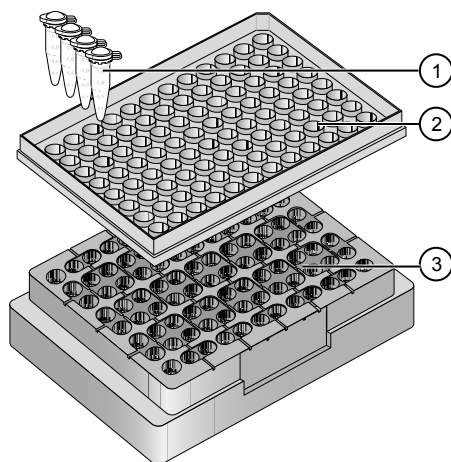
MicroAmp™ tubes and accessories

This table is representative of available plastics and other consumables. For a complete list, refer to <http://www.lifetechnologies.com/us/en/home/life-science/pcr/pcr-plastics.html>.

Consumables	Cat. no. (Quantity)
MicroAmp™ 96-Well Tray for VeriFlex™ Systems Capacity: 96 wells	4379983 (10 trays)
MicroAmp™ Reaction Tubes with Cap (0.2 mL) PCR volume range: 10–100 µL (25 µL recommended) Capacity: 200 µL	<ul style="list-style-type: none">• N8010540 (1,000 tubes)• N8011540 (10,000 tubes)• N8010840 (1,000 tubes; assorted colors)• N8010612 (1,000 tubes; autoclaved)
MicroAmp™ Multi-Removal Tool	4313950 (1 tool)
MicroAmp™ Splash Free 96-Well Base	4312063 (10 bases)

Fill, seal, and load tubes

1. Set the 96-well tray on a splash-free 96-well base.
2. Place the reaction tubes in the tray.



- ① MicroAmp™ Reaction Tube with Cap (0.2-mL)
- ② MicroAmp™ 96-Well Tray for VeriFlex™ Blocks
- ③ MicroAmp™ Splash Free 96-Well Base

3. Pipette the samples into the reaction tubes.
4. Cap the tubes.
5. Place the sealed reaction tubes and tray into the instrument without the splash-free base.

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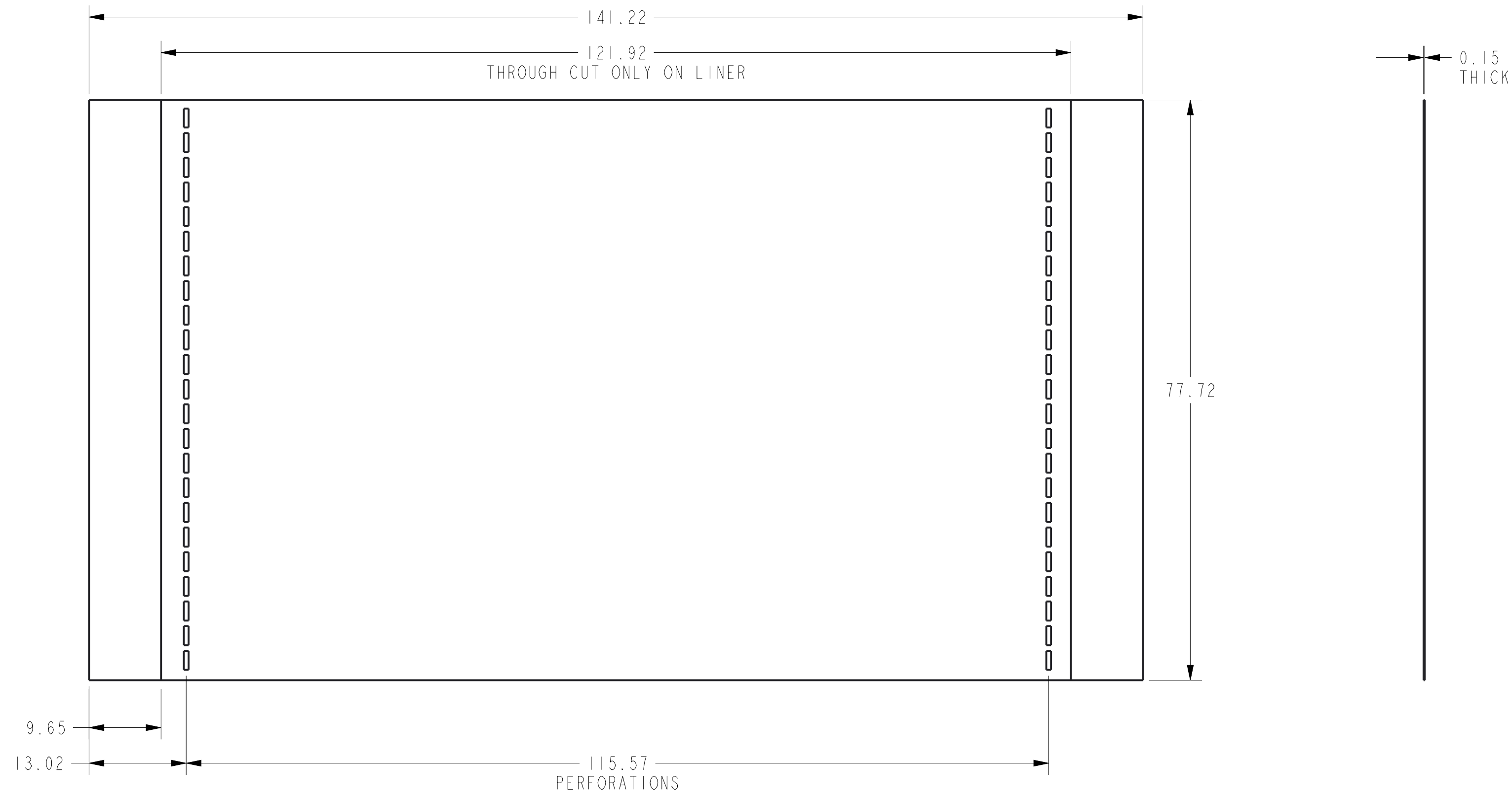
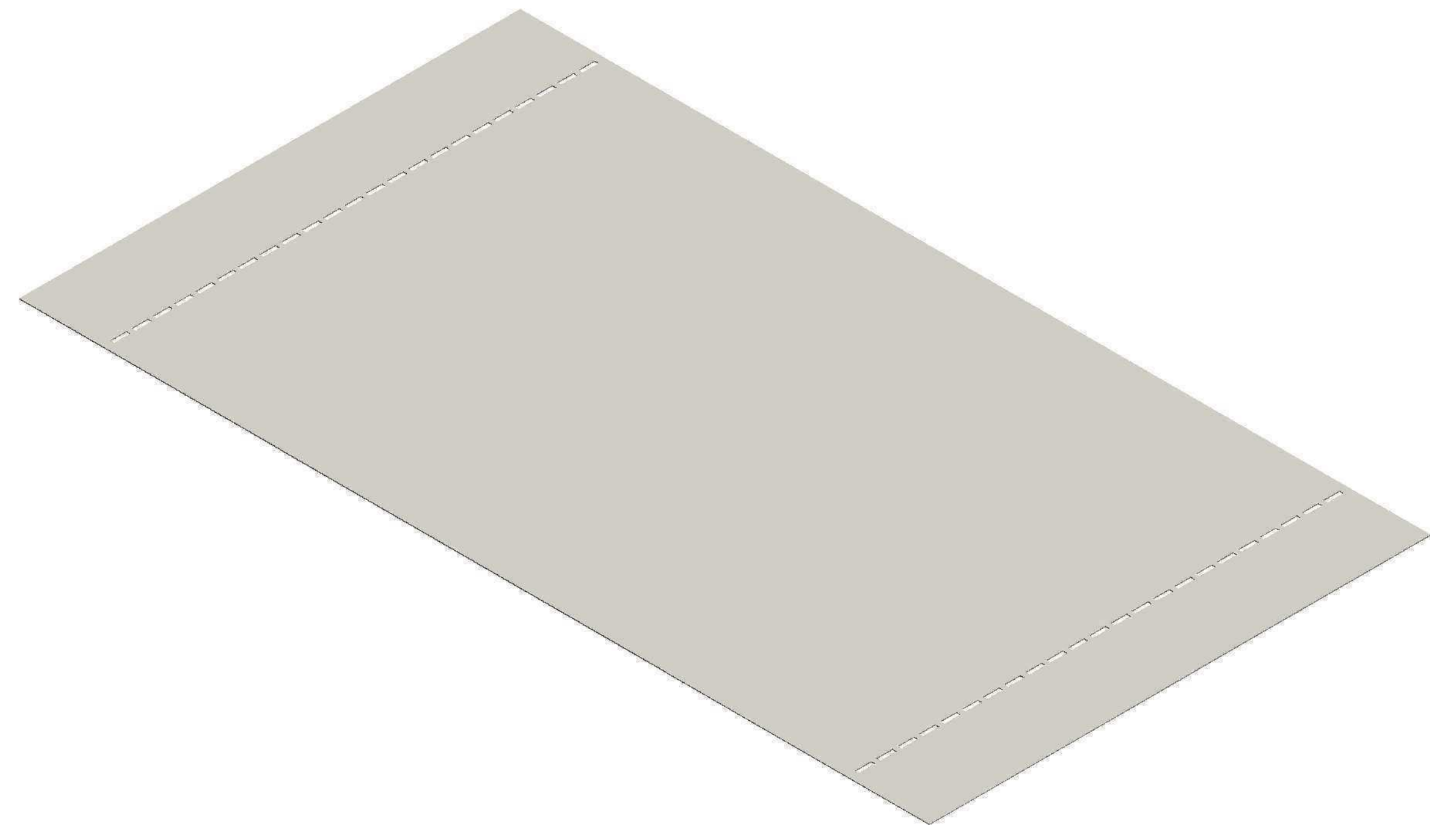
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PART #	PACK SIZE	DESCRIPTION
4311971	100 COVERS	MicroAmp® Optical Adhesive Film
4360954	25 COVERS	MicroAmp® Optical Adhesive Film

<small>UNLESS OTHERWISE SPECIFIED, DIMENSIONS AND TOLERANCES ARE PER ASME Y14.5M AND ARE IN MILLIMETERS. TOLERANCES ARE AS FOLLOWS:</small>	MATERIAL	N/A	
	FINISH	N/A	
	DESIGNED	DATE	
METRIC	THIRD ANGLE PROJECTION		ADHESIVE OPTICAL COVER
	<small>© 2016 ThermoFisher Scientific corporation. All rights reserved. These drawings and specifications are the property of ThermoFisher Scientific and are issued in strict confidence and shall not be reproduced, copied, or used as the basis for manufacture, or sale of, or any unauthorized purposes related to, the matter depicted herein, without the prior written consent of ThermoFisher Scientific corporation.</small>	SIZE D 2.000 SCALE 2.000 PART NO. 4311977 SHEET 1 OF 1	

Multi-Capillary DS-36 Matrix Standard (Dye Set J6)

3130, 3500 and 3730 Series Systems

Publication Number 4426042 Rev. A Revision Date July 2012

Part Number	Part	Storage Conditions and Shelf Life
4425042	Multi-Capillary DS-36 Matrix Standard (Dye Set J6), 1 tube, 112 µL, sufficient for a minimum of 8 array runs Contains 6 DNA fragments labeled with 6-FAM™, VIC®, NED™, SID™, TAZ™, and LIZ® dyes in 1X TE buffer	2 to 8°C Do not freeze. Kit is stable for one year when stored at 2 to 8°C.

Note: For safety and biohazard guidelines, refer to the “Safety” section in the instrument User Guide or Getting Started Guide. For every chemical, read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

Product description

The DS-36 Matrix Standard (Dye Set J6) is used to perform spectral calibration required to analyze 6-FAM™, VIC®, NED™, SID™, TAZ™, and LIZ® dye-labeled DNA fragments on the 3130, 3500, and 3730 Series Systems. The Data Collection Software for these instruments uses the multicomponent matrix to automatically analyze the 6 different colored fluorescent dye-labeled samples in a single capillary. The DS-36 Matrix Standard (Dye Set J6) contains 6 specific sizes of a unique fluorescent dye label.

Matrix standards are not required with every set of sample injections. Run the standard one time to generate a matrix file which is then applied to samples run under similar conditions. For more information on the use of matrix standards, refer to the instrument User Guide or Getting Started Guide.

Preparing for use with 3130 Genetic Analyzers

The following procedure assumes use of a thermal cycler for denaturation. If a thermal cycler is not available, reverse steps 4 and 5 (denature before dispensing into the plate).

1. Thoroughly mix the contents of the tube and spin briefly in a microcentrifuge.
2. Prepare the matrix standard by combining the following in a 1.5-mL microcentrifuge tube (use Hi-Di™ Formamide Part no. 4311320 or 4440753):

Capillary array	Standard	Hi-Di™ Formamide
36 cm	3 µL	297 µL
50 cm	2 µL	398 µL

3. Mix thoroughly and spin briefly in a microcentrifuge.
4. Dispense 10 µL of matrix standard / Hi-Di™ formamide mixture into a 96-well microtiter plate.
Based on the number of capillaries on your instrument, dispense into the following wells:
 - **16 capillaries:** 2 columns (for example, A1-H1, A2-H2)
 - **4 capillaries:** 4 wells (for example, A1-D1)
5. Cover the plate and denature at 95°C for 5 minutes. Immediately place on ice.

Refer to the instrument user guide for information on 384-well plate layout and setting up a spectral run.

Preparing for use with 3730/3730xl DNA Analyzers

The following procedure assumes use of a thermal cycler for denaturation. If a thermal cycler is not available, reverse steps 4 and 5 (denature before dispensing into the plate).

1. Thoroughly mix the contents of the tube and spin briefly in a microcentrifuge.
2. Prepare the matrix standard (sufficient for the 48-capillary array) by combining the following in a 1.5-mL microcentrifuge tube (use Hi-Di™ Formamide Part no. 4311320 or 4440753):
 - **Standard:** 10 µL
 - **Hi-Di™ Formamide:** 490 µL
3. Mix thoroughly and spin briefly in a microcentrifuge.
4. Dispense 10 µL of matrix standard / Hi-Di™ formamide mixture into the appropriate wells on a 96-well microtiter plate (for example, A1-H1, A3-H3, A5-H5, A7-H7, A9-H9, A11-H11).
5. Cover the plate and denature at 95°C for 5 minutes. Immediately place on ice.

Select the G6-RCT dye set when performing a spectral calibration with the DS-36 Matrix Standard (Dye Set J6).

Refer to the instrument user guide for information on 384-well plate layout and setting up a spectral run.

Preparing for use with 3500 Series Genetic Analyzers

The following procedure assumes use of a thermal cycler for denaturation. If a thermal cycler is not available, reverse steps 4 and 5 (denature before dispensing into the plate).

1. Thoroughly mix the contents of the tube and spin briefly in a microcentrifuge.
2. Prepare the matrix standard by combining the following in a 1.5-mL microcentrifuge tube (use Hi-Di™ Formamide Part no. 4311320 or 4440753):
 - **Standard:** 6 µL
 - **Hi-Di™ Formamide:** 294 µL
3. Mix thoroughly and spin briefly in a microcentrifuge.
4. Dispense 10 µL of matrix standard / Hi-Di™ formamide mixture into a 96-well microtiter plate.
Based on the number of capillaries on your instrument, dispense into the following wells:
 - **8 capillaries:** A1-H1
 - **24 capillaries:** A1-H1, A2-H2, A3-H3
5. Cover the plate and denature at 95°C for 5 minutes. Immediately place on ice.

Refer to the instrument user guide for information on 384-well plate layout and running a spectral calibration.

Additional information



- If the signal height of any one of the matrix standard fragments is saturated, prepare a new matrix standard mix with half the volume of matrix specified above. Rerun the spectral calibration.
- Discard any unused reagent that has been diluted in Hi-Di™ Formamide.

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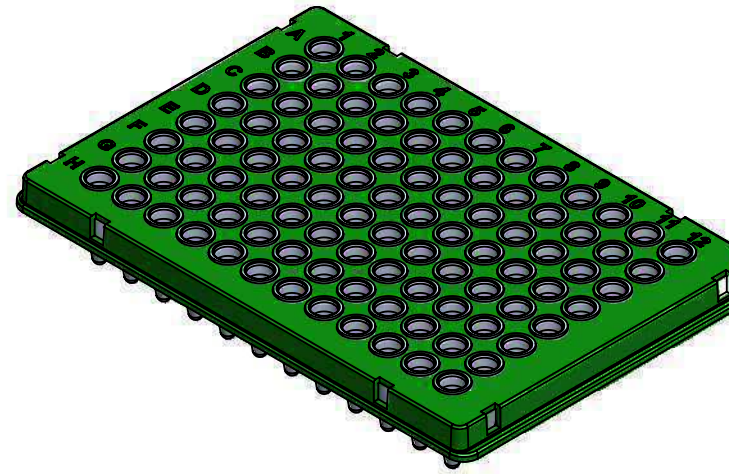
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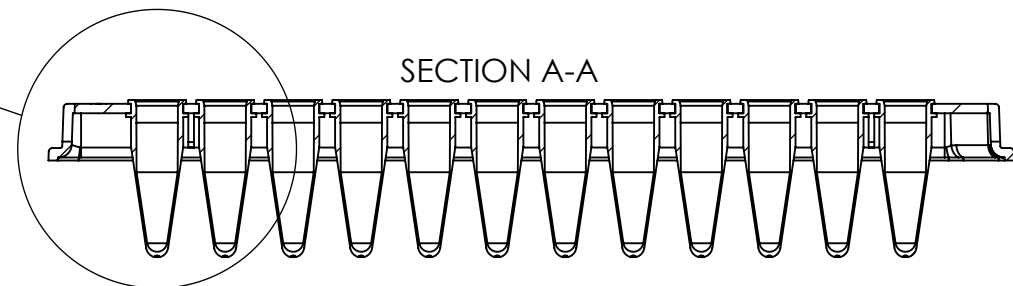
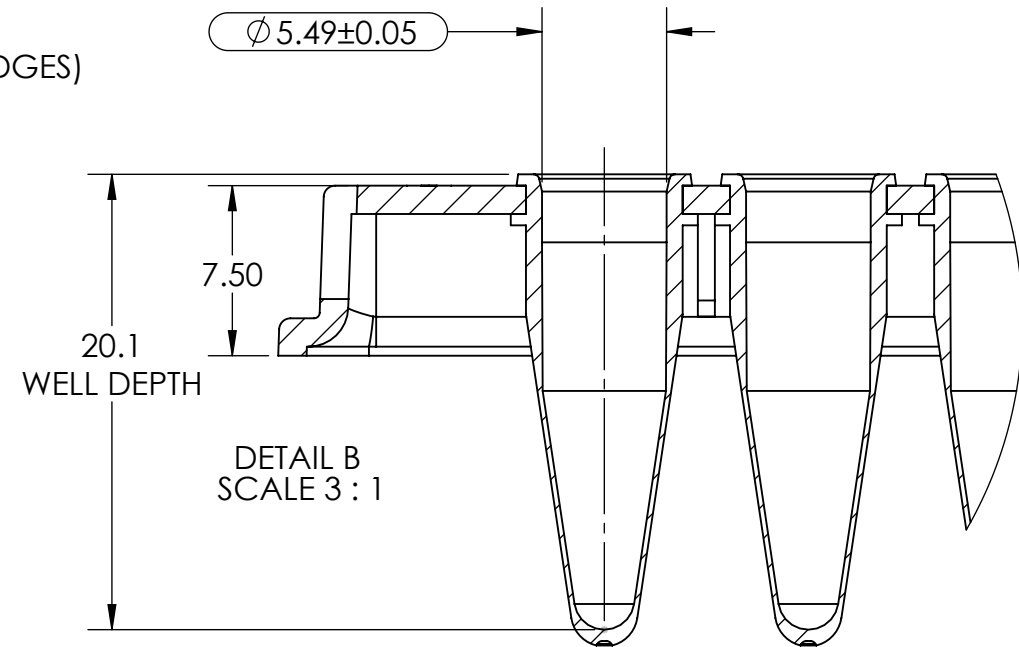
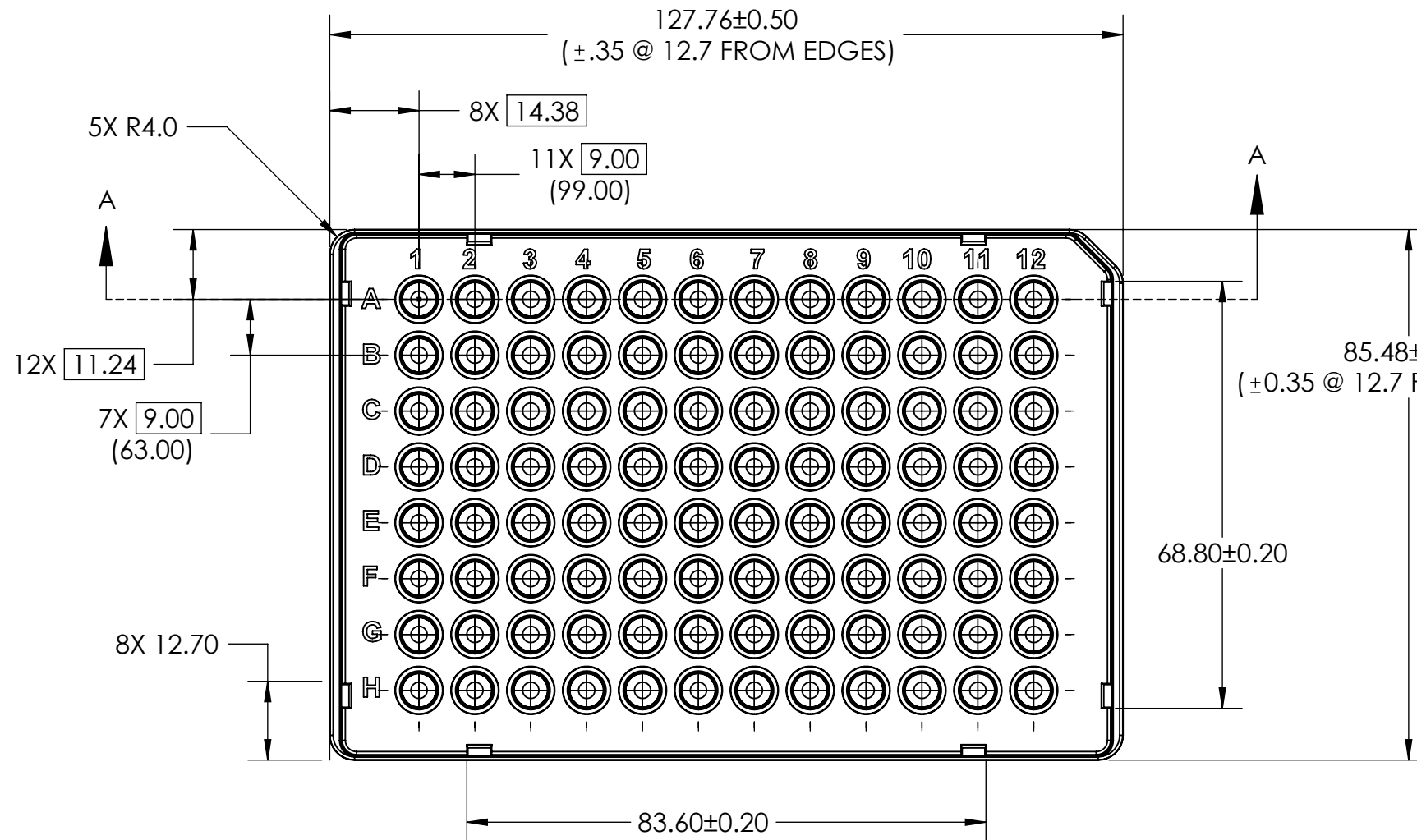
FOR CUSTOMER REFERENCE ONLY

**THIS PRODUCT CONFORMS TO:
ANSI/SBS 1-2004 FOOTPRINT DIMENSIONS
ANSI/SBS 4-2004 WELL POSITIONS**



PRODUCTS

PART #	PLATES / KIT	DESCRIPTION
4483354	20	MicroAmp® EnduraPlate™ Optical 96-Well Clear
4483343	20	MicroAmp® EnduraPlate™ Optical 96-Well Blue
4483349	20	MicroAmp® EnduraPlate™ Optical 96-Well Green
4483350	20	MicroAmp® EnduraPlate™ Optical 96-Well Red
4483395	20	MicroAmp® EnduraPlate™ Optical 96-Well Yellow
4483355	5	MicroAmp® EnduraPlate™ Optical 96-Well Multicolor
4483352	500	MicroAmp® EnduraPlate™ Optical 96-Well Clear
4483356	500	MicroAmp® EnduraPlate™ Optical 96-Well Multicolor



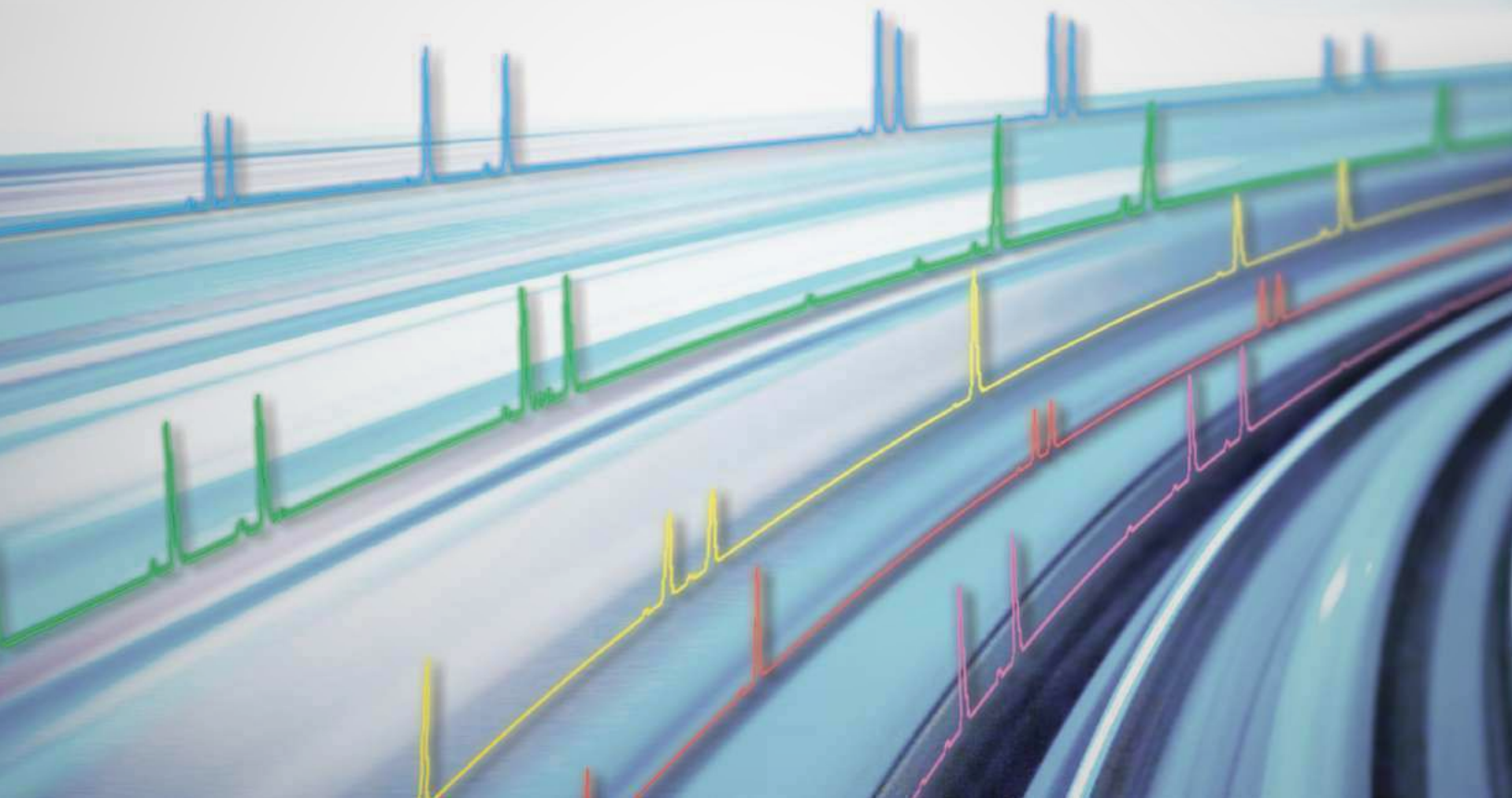
COMMENTS:
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UNLESS OTHERWISE SPECIFIED DIMENSIONS AND TOLERANCES ARE IN MILLIMETERS AND PER ASME Y14.5.		MATERIAL WELLS: POLYPROPYLENE SHELL: POLYCARBONATE	
TOLERANCES ARE: ANGLES $\pm .5^\circ$ X. $\pm .5$ X.X $\pm .25$ X.XX $\pm .13$ X.XXX $\pm .05$		FINISH SEE NOTE 8	
REFERENCED 3D FILE REVISION A-09	DRAWN S. JAFFE	DATE 30 NOV 11	
AGILE NUMBER	CHECKED CS LIM	DATE 21 MAY 12	
METRIC	QUALITY	DATE	
	DOC. CONTROL	DATE	

DESCRIPTION MICROPLATE, 96 WELL, ENDURAPLATE			
SIZE B	SCALE 1:1	PART NUMBER 4473712	REV A-09
DO NOT SCALE DRAWING		3RD ANGLE	SHEET 3 OF 3

E SIZE 1ST BLOCK REV-A-01

answers that
go further



GlobalFiler PCR amplification kits

GlobalFiler, GlobalFiler IQC, and GlobalFiler Express kits

Around the world, forensic DNA labs are being asked to do more with less. Applied Biosystems™ GlobalFiler™, GlobalFiler™ IQC, and GlobalFiler™ Express PCR Amplification Kits combine reduced amplification time with exceptional discrimination power, enabling forensic researchers to maximize information recovery, even on the most challenging casework sample types.

As global forensic DNA databases rapidly expand, so does the need for more discriminating short tandem repeat (STR) multiplexes that can maximize loci overlap. GlobalFiler kits can meet this need, since they incorporate the most commonly used loci—all in a single multiplex, 6-dye configuration kit. GlobalFiler kits contain all markers recommended for inclusion by the Combined DNA Index System (CODIS) Core Loci Working Group and those commonly used in Europe. Use of the recommended markers in multiplex kits reduces the risk of adventitious matches while enabling more effective cross-border data sharing. Additionally, the kits are backed by training, service, and support from Thermo Fisher Scientific.



One of the GlobalFiler kits is also available with an internal quality control system, or IQC, as part of a fully integrated and verified forensic workflow. The IQC system comprises two synthetic sequences with specific primers for each of the targets (IQC Small (IQCS) and IQC Large (IQCL)) and provides positive confirmation of sample amplification. It also indicates adverse conditions that may compromise amplification, such as the presence of PCR inhibitors. The IQC system, also used in Applied Biosystems™ VeriFiler Plus™ and NGM Detect™ kits, provides additional confidence in genotyping results, and can help users distinguish, for example, between inhibited and degraded DNA samples.

Discriminating marker selection

- 24-locus multiplex assay that contains all CODIS markers, European standard set (ESS) markers, and SE33
- 3 gender discrimination markers for maximum confidence

Optimized for challenging samples

- Includes 10 powerful mini-STR loci (<220 bp) for increased information recovery from heavily degraded samples
- Enhanced buffer system enables superior performance on samples containing inhibitors
- Expanded sensitivity and the flexibility to add up to 15 µL of sample enable increased allele recovery from low-level DNA samples

Outstanding operational efficiency

- Improved data interpretation with reduced pull-up edits (Figure 1) and off-scale data recovery when combined with Applied Biosystems™ 3500 Data Collection Software v4.0 and Applied Biosystems™ GeneMapper™ ID-X Software v1.6
- IQC system for sample quality assessment (in GlobalFiler IQC kit only)

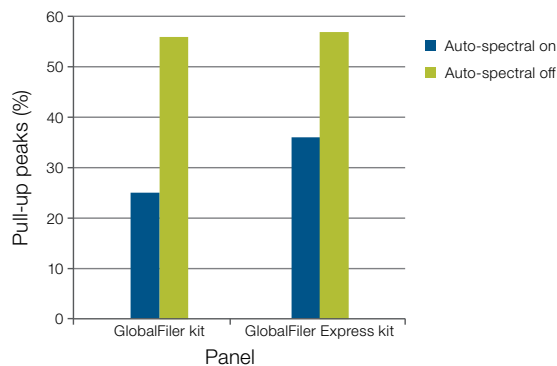


Figure 1. Pull-up peak reduction results. Samples were analyzed at 1 ng and 2 ng gDNA input using GlobalFiler STR kits on the Applied Biosystems™ 3500 Genetic Analyzer with Data Collection Software v4.0 and GeneMapper™ ID-X Software v1.6. Each kit demonstrated a reduction of >35% in the number of peaks with a pull-up edit required when using the auto-spectral algorithm.

Key features of the GlobalFiler kits

	GlobalFiler kit	GlobalFiler IQC kit	GlobalFiler Express kit	
Kit composition	High discrimination power	24-marker multiplex assay including 3 gender markers and the highly discriminatory SE33 locus		
	Number of dyes	6		
	Mini-STR (<220 bp)	10		
	Gender markers	Y-indel, amelogenin, and DYS391		
	IQC markers	No	Yes: for distinguishing inhibited and degraded samples; positive control for PCR amplification	No
	Identical primer sequences	✓	✓ (except for the IQC)	✓
	Probability of identity (PI) value	African American: 6.18×10^{-27} US Caucasian: 3.71×10^{-26} US Hispanic: 3.09×10^{-26} Asian: 3.24×10^{-24}		
Database compatibility	Required ESS markers	✓	✓	✓
	Required CODIS markers	✓	✓	✓
	NDIS* approved	✓	In progress	✓
Kit protocols	DNA input	15 µL/1 ng target		Treated or untreated paper: 1.2 mm punch Swab: 3 µL (of 400 µL) Applied Biosystems™ Prep-n-Go™ Buffer
	Final PCR volume	25 µL		15 µL
	Technical note supporting direct amplification	✓	No	✓
	Supported sample types	Optimized chemistry for challenging sample types: touched, inhibited, or degraded samples		Verified with multiple sample collection devices such as treated paper, untreated paper, and swabs; designed to work with the most commonly used substrates

* NDIS: US National DNA Index System.

The **GlobalFiler PCR Amplification Kit** is the first 6-dye, 24-locus STR kit that combines maximum compatibility with global databasing loci standards. With dramatically reduced amplification time and superior discrimination power, it helps enable forensic DNA labs worldwide to maximize information recovery and improve overall efficiency (Figure 2). Although optimized for casework samples, direct amplification of single-source reference samples using the GlobalFiler kit is also supported to enable laboratories to process all sample types with one amplification kit. In addition, laboratories have implemented a 30-cycle protocol using the GlobalFiler kit to increase allele recovery from bone samples (Figure 3).

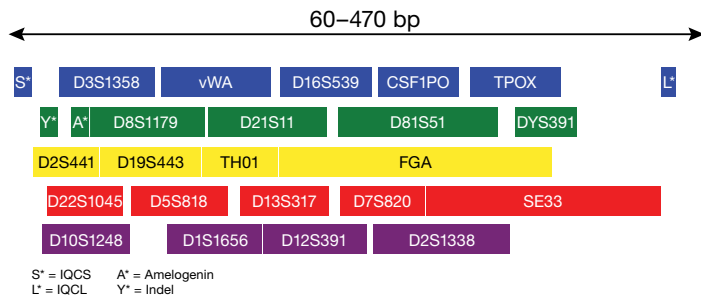


Figure 2. Multiplex configuration of the GlobalFiler kit. The kit includes all 24 loci with only 1 locus partially exceeding 400 base pairs. 10 mini-STR loci lie completely below 220 base pairs, and all gender-specific markers are located in the green VIC™ dye channel for convenience of interpretation. The IQCS and IQCL markers are only present in the GlobalFiler IQC kit.

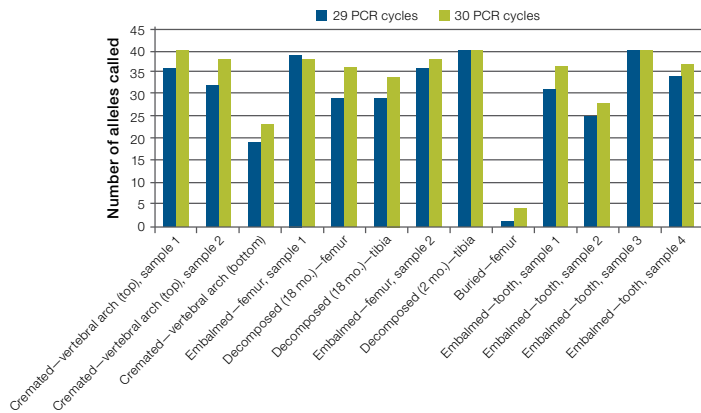


Figure 3. A comparison of the mean number of alleles (excluding amelogenin) called across sample types when amplified at 29 and 30 cycles. Samples were prepared using the Applied Biosystems™ PrepFiler™ BTA DNA Extraction Kit.

The **GlobalFiler IQC PCR Amplification Kit** includes the same PCR primers as the original GlobalFiler kit and uses the same PCR setup, thermal cycling, and electrophoresis conditions. Additionally, it contains the IQC system, which is particularly useful to confirm the validity of negative results and can also be used to distinguish between samples that are degraded and those that contain PCR inhibitors (Figure 4). When the IQC system indicates degraded DNA, forensic analysts may reamplify a sample with a higher amount of input DNA or choose a complementary STR amplification kit that has an alternative marker set configuration to maximize information recovery. If the IQC system indicates inhibitors are present, the analyst may opt for an additional purification step or a dilution of the original sample before repeating sample amplification.

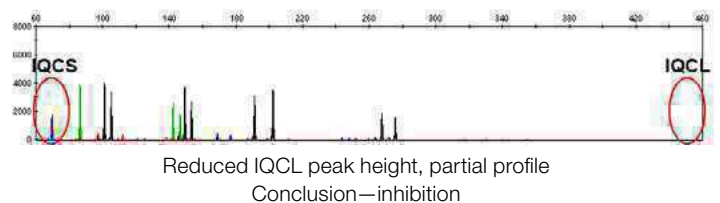
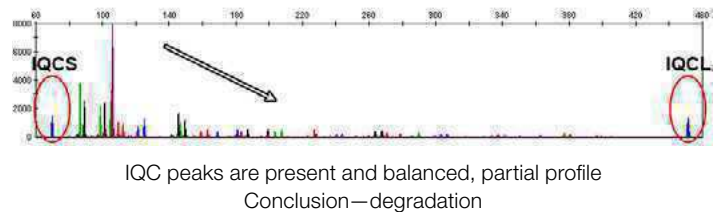
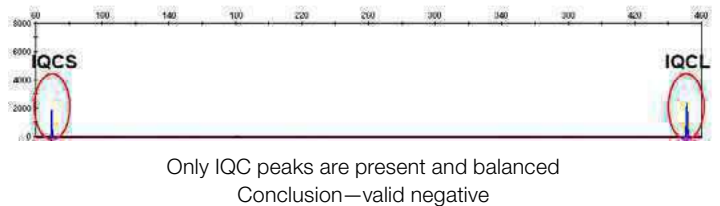
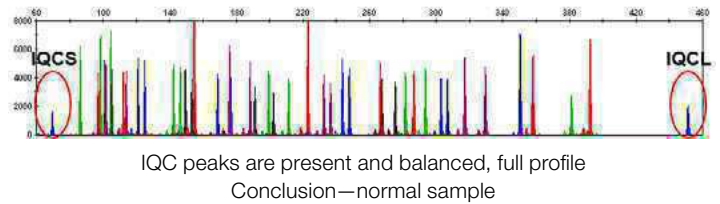


Figure 4. Analysis of samples using the two quality markers, IQCS and IQCL, of the IQC system.

The GlobalFiler Express PCR Amplification Kit has been optimized to deliver high-quality results with a wide range of single-source DNA sample and substrate inputs. The introduction of simplified, fast amplification protocols has enabled workflow efficiency for single-source DNA samples. Untreated substrates such as swabs and papers utilize Prep-n-Go Buffer prior to amplification to facilitate lysis, enabling results similar to treated papers (Figures 5 and 6). Additional sample collection methods, such as the Bode™ Buccal DNA Collector™ device, have been tested (data not shown).

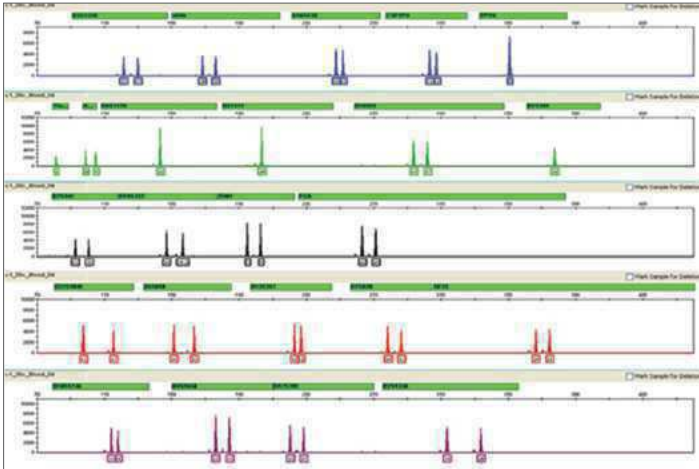


Figure 5. Direct amplification of a blood sample on Whatman™ FTA™ paper. Sample was punched directly into the GlobalFiler Express reaction mix.

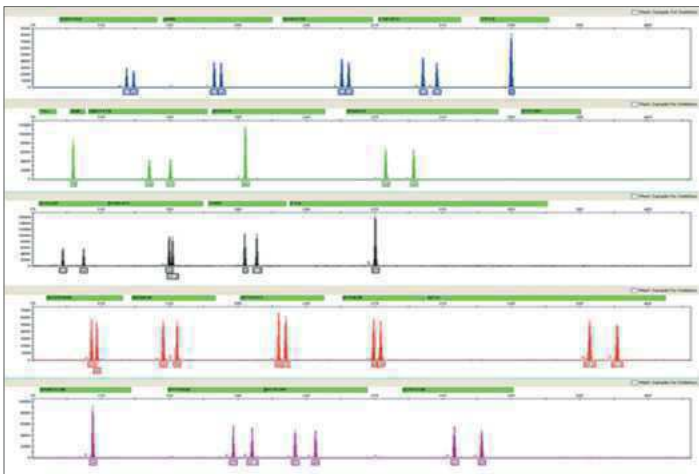


Figure 6. Direct amplification of cell lysate taken from a buccal sample on a Copan™ 4N6FLOQSwabs™ device, which was treated with Prep-N-Go Buffer.

The GlobalFiler and GlobalFiler Express kits are approved by the FBI's NDIS board for use by laboratories generating DNA profiles of offenders for inclusion in the U.S. National NDIS database.



GlobalFiler kits are manufactured at our location in Warrington, United Kingdom, a facility that meets the guidelines for ISO 18385 certification. We have made significant investments across all aspects of production to minimize human DNA contamination. The result is powerful forensic DNA-grade solutions that enable you to provide answers with certainty and confidence.



Need help bringing products online?

Look no further than our Human Identification Professional Services (HPS) team. Since 2007, we have completed over 400 successful verification projects worldwide with a team of more than 20 technical support specialists, each averaging 8 years of real-world forensic experience, providing customers with in-depth training and support on our instruments, chemistries, and software.

Ordering information

Product	Quantity	Cat. No.
GlobalFiler IQC PCR Amplification Kit	200 reactions	A43565
GlobalFiler PCR Amplification Kit	200 reactions	4476135
	1,000 reactions	4482815
GlobalFiler Express PCR Amplification Kit	200 reactions	4476609
	1,000 reactions	4474665
GlobalFiler Express PCR Amplification Kit and Prep-n-Go Buffer (for buccal swabs)	200 reactions	4479649
	1,000 reactions	4479648
DS-36 Matrix Standard (Dye Set J6)	8 runs	4425042
GeneScan 600 LIZ Dye Size Standard v2.0	800 reactions	4408399
Hi-Di Formamide	4 tubes, 5 mL each	4440753
GeneMapper <i>ID-X</i> Software v1.6, full installation	1 license	A39975

Find out more at thermofisher.com/globalfiler

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COL110245 0919

GlobalFiler and GlobalFiler Express PCR Amplification Kits

Cat. Nos. 4482815, 4476135, 4474665, and 4476609

We have performed developmental validation experiments in accordance with the DNA Advisory Board (DAB) Quality Assurance Standards (September 1, 2011) and guidelines from the Scientific Working Group on DNA Analysis Methods (SWGDM) (December 2012) to evaluate the performance of the Applied Biosystems™ GlobalFiler™ and GlobalFiler™ Express PCR Amplification Kits. We have validated the GlobalFiler kits for use in human identification testing.

Each laboratory using the GlobalFiler or GlobalFiler Express PCR Amplification Kits should perform its own appropriate internal validation studies to establish interpretation criteria and demonstrate that the GlobalFiler kits are appropriate and fit for its own human identification uses.

MicroAmp™ plastic consumables compatibility chart for Applied Biosystems™ endpoint PCR systems and genetic analyzers

Product	Cat. No.	3 x 32-well	96-well		96-well Fast	384-well		Genetic analyzers		
		ProFlex™	ProFlex, SimpliAmp™, Veriti™, MiniAmp™ Plus, MiniAmp™	2720	9700	Veriti	ProFlex, Veriti	9700	310	3130, 3130xl, 3500, 3500xL, 3730, 3730xl
96-well 0.2 mL reaction plates										
Optical 96-Well Plate	N8010560, 4316813		•	•	•					•
Optical 96-Well Plate with Barcode	4306737, 4326659		•	•	•					•
96-Well Plate with Barcode & Optical Caps	403012		•	•	•					
Optical 96-Well Plate with Barcode & Optical Adhesive Films	4314320		•	•	•					
EnduraPlate Optical 96-Well Clear Plate with Barcode*	4483354, 4483352		•	•	•					•
TriFlex 3 x 32-Well Reaction Plate	A32810, A32811	•	•	•	•					
96-well 0.1 mL reaction plates										
Fast Optical 96-Well Plate, 0.1 mL	4346907					•			•	•
Fast Optical 96-Well Plate with Barcode, 0.1 mL	4346906, 4366932					•			•	•
EnduraPlate Optical 96-Well Fast Clear Plate with Barcode*	4483485, 4483494					•			•	•
384-well reaction plates										
Optical 384-Well Plate	4343370					•	•			•
Optical 384-Well Plate with Barcode	4309849, 4326270, 4343814					•	•			•
EnduraPlate Optical 384-Well Clear Plate with Barcode*	4483285, 4483273					•	•			•
Strip tubes and caps										
Fast 8-Tube Strip, 0.1 mL	4358293					•				
Optical 8-Tube Strip with Attached Optical Caps, 0.2 mL	A30588	•	•	•	•					
8-Tube Strip with Attached Domed Caps, 0.2 mL	A30589	•	•	•	•					
8-Tube Strip, 0.2 mL*	N8010580	•	•	•	•				•	
Optical 8-Tube Strip, 0.2 mL	4316567	•	•	•	•					
8-Cap Strip*	N8010535, N8011535	•	•	•	•	•				
Optical 8-Cap Strip	4323032	•	•	•	•	•				
12-Cap Strip*	N8010534, N8011534	•	•	•	•	•				
Single tubes										
Fast Reaction Tube with Cap, 0.1 mL	4358297, 4358293					•				
Reaction Tube with Cap, 0.2 mL*	N8010540, N8010612, N8011540	•	•	•	•					
Reaction Tube without Cap, 0.2 mL*	N8010533, N8011533	•	•	•	•					
Optical Tube without Cap, 0.2 mL	N8010933	•	•	•	•					
Seals and covers										
Clear Adhesive Film	4306311		•	•	•	•	•	•		
Optical Adhesive Film	4360954, 4311971		•	•	•	•	•	•		
96-Well Full Plate Cover	N8010550			•	•					
32-Well Clear Adhesive Film	A32812	•	•	•	•					
Accessories										
Splash-Free 96-Well Base	4312063		•	•	•	•				
96-Well Support Base	4379590		•	•	•	•				•
96-Well Base	N8010531		•	•	•					
96-Well Reaction Tube/Tray/Retainer Set, 0.2 mL	403083, 403086			•	•					

* Multiple colors are available.

Note: Experiments using one or two 8-tube strips with attached caps require blank tube strips to balance lid pressure on the block or the use of the MicroAmp™ 96-Well Tray/Retainer Set (Cat. No. 4381850)—bottom part of tray only. For use with 96-well block of ProFlex, SimpliAmp, Veriti, MiniAmp Plus, and MiniAmp thermal cyclers.

Find out more at thermofisher.com/pcrplastics

MicroAmp™ plastic consumables compatibility chart for Applied Biosystems™ real-time PCR systems

Product	Cat. No.	48-well		96-well			96-well Fast			384-well
		StepOne™	7000	7300, 7500	QuantStudio™ 3/5/6/7/12K, ViiA™ 7, 7900HT		StepOnePlus™	7500	QuantStudio 3/5/6/7/12K, ViiA 7, 7900HT	QuantStudio 5/6/7/12K, ViiA 7, 7900HT
96-well 0.2 mL reaction plates										
Optical 96-Well Plate	N8010560, 4316813		•	•	•					
Optical 96-Well Plate with Barcode	4306737, 4326659		•	•	•					
Optical 96-Well Plate with Barcode & Optical Caps	403012		•	•	•					
Optical 96-Well Plate with Barcode & Optical Adhesive Films	4314320		•	•	•					
EnduraPlate Optical 96-Well Clear Plate with Barcode*	4483354, 4483352			•	•					
96-well 0.1 mL reaction plates										
Fast Optical 96-Well Plate, 0.1 mL	4346907					•	•	•		
Fast Optical 96-Well Plate with Barcode, 0.1 mL	4346906, 4366932					•	•	•		
EnduraPlate Optical 96-Well Fast Clear Plate with Barcode*	4483485, 4483494					•	•	•		
384-well reaction plates										
Optical 384-Well Plate	4343370									•
Optical 384-Well Plate with Barcode	4309849, 4326270, 4343814									•
EnduraPlate Optical 384-Well Clear Plate with Barcode*	4483285, 4483273									•
48-well reaction plates										
Fast Optical 48-Well Plate	4375816	•								
Strip tubes and caps										
Fast 8-Tube Strip, 0.1 mL	4358293	•				•	•	•		
Optical 8-Tube Strip with Attached Optical Caps, 0.2 mL	A30588		•	•	•					
Optical 8-Tube Strip, 0.2 mL	4316567		•	•	•					
Optical 8-Cap Strip	4323032	•	•	•	•	•	•	•		
Single tubes and caps										
Fast Reaction Tube with Cap, 0.1 mL	4358297	•				•		•		
Optical Tube without Cap, 0.2 mL	N8010933		•	•						
Seals and covers										
Optical Adhesive Film	4360954, 4311971		•	•	•	•	•	•		•
48-Well Optical Adhesive Film	4375323	•								
Reaction trays										
96-Well Tray/Retainer Set	403081		•							
Fast 48-Well Tray	4375282	•								
96-Well Tray for VeriFlex Blocks	4379983					•				
Accessories										
Splash-Free 96-Well Base	4312063		•	•	•	•	•	•		
96-Well Support Base	4379590		•	•	•	•	•	•		
96-Well Base	N8010531		•	•	•	•	•	•		

* Multiple colors are available.

Note: Experiments using one or two 8-tube strips with attached caps require blank tube strips to balance lid pressure on the block or the use of the MicroAmp™ 96-Well Tray/Retainer Set (Cat. No. 4381850)—bottom part of tray only. For use with 96-well block of 7000, 7300, 7500, and ViiA 7 systems, and QuantStudio 3/5/6/7/12K instruments.

Find out more at thermofisher.com/pcrplastics

PrepFiler® BTA Forensic DNA Extraction Kit

Publication Part Number 4463178 Revision Date 04 January 2012 (Rev. B)

Materials provided with the PrepFiler® BTA Forensic DNA Extraction Kit (Part no. 4463352)		
Component	Reagent	Storage conditions
PrepFiler® Lysis Buffer	One bottle, 35 mL	Store all kit components at room temperature (18 - 25°C).
PrepFiler® Magnetic Particles	One tube, 1.5 mL	
PrepFiler® BTA Lysis Buffer	One bottle, 25 mL	
PrepFiler® Wash Buffer A Concentrate	Two 125-mL bottles; user fills each bottle to the shoulder with freshly-opened 95% ethanol (93 mL ethanol) to prepare a 1X solution)	
PrepFiler® Wash Buffer B Concentrate	Two 30-mL bottles; user fills each bottle to the shoulder with 95% ethanol (19.5 mL ethanol)	
PrepFiler® Elution Buffer	One bottle, 12.5 mL	
Proteinase K	One tube, 0.85 mL	

Note: For safety and biohazard guidelines, refer to the “Safety” section in the *PrepFiler® and PrepFiler® BTA Forensic DNA Extraction Kits User Guide (Part no. 4463348)*. For every chemical, read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

Plastics and reagents for use with the PrepFiler® BTA Forensic DNA Extraction Kit (sold separately)		
Component	Description	Source
PrepFiler® Spin Tubes and Filter Columns	300 Spin Tubes and 100 Filter Columns	Life Technologies (PN 4392342)
1.5-mL Non-stick RNase-free Microfuge Tubes	500 tubes	Life Technologies (AM12450)
2-mL Microcentrifuge Tubes and Caps	500 tubes with caps	Life Technologies (PN 4305936)
1.0 M solution DL-Dithiothreitol (DTT) (1.54g per 10 mL water)	Molecular biology grade; ≥98% (TLC), ≥99% (titration) 3 µL per extraction; 5 µL per extraction for large (500 µL) samples	Sigma-Aldrich www.sigmaaldrich.com† (PN D9779)
Isopropanol	2-Propanol, ACS reagent grade, ≥99.5% 180 µL per extraction; 300 µL per extraction for large (500 µL) samples	Sigma-Aldrich www.sigmaaldrich.com† (PN 190764)
Ethanol	Molecular biology grade; 95% or 190 proof Approximately 125 mL per experiment Note: Open a new bottle when preparing the PrepFiler® Wash Buffer solutions.	Sigma-Aldrich www.sigmaaldrich.com† (PN E7148)

† Recommended source. Equivalent materials from other suppliers can be used after appropriate validation studies by the user laboratory.

PrepFiler® BTA Forensic DNA Extraction Kit description

The PrepFiler® BTA Forensic DNA Extraction Kit is designed for extracting and purifying DNA from challenged forensic sample types such as bone, teeth, and adhesive-containing substrates including cigarette butts, chewing gum, and tape lifts.

The PrepFiler® BTA Forensic DNA Extraction Kit contains reagents optimized for use in:

- Performing cell lysis
- Binding genomic DNA to magnetic particles
- Removing PCR inhibitors
- Eluting concentrated purified DNA

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PrepFiler® & PrepFiler® BTA Forensic DNA Extraction Kits

PrepFiler® Forensic DNA Extraction Kit - P/N 4463351

PrepFiler® BTA Forensic DNA Extraction Kit - P/N 4463352

PrepFiler® Automated Forensic DNA Extraction Kit - P/N 4463353

Life Technologies performed developmental validation experiments in accordance with the DNA Advisory Board (DAB) Quality Assurance Standards (October 1, 1998) and guidelines from the Scientific Working Group on DNA Analysis Methods (SWGDM, July 10, 2003) to evaluate the performance of the PrepFiler® and PrepFiler® BTA Forensic DNA Extraction Kits. Life Technologies has validated these kits for use in Human Identification testing for databasing, casework, and paternity applications. Each laboratory using these kits should perform its own internal validation studies to establish interpretation criteria and demonstrate that the PrepFiler® and PrepFiler® BTA Forensic DNA Extraction Kits are appropriate and fit for its own Human Identification uses.

Quantifiler Trio DNA Quantification Kit

Cat. No. 4482910

Thermo Fisher Scientific performed developmental validation experiments in accordance with the DNA Advisory Board (DAB) Quality Assurance Standards (September 1, 2011) and guidelines from the Scientific Working Group on DNA Analysis Methods (SWGDM, December 2012) to evaluate the performance of the Applied Biosystems™ Quantifiler™ Trio DNA Quantification Kit. We have validated the Quantifiler Trio DNA Quantification Kit for use in human identification testing.

Each laboratory using the Quantifiler Trio DNA Quantification Kit should perform its own appropriate internal validation studies to establish interpretation criteria and demonstrate that the Quantifiler Trio DNA Quantification Kit is appropriate and fit for its own human identification uses.

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Yfiler Plus PCR Amplification Kit

Cat. No. 4484678 and 4482730

Thermo Fisher Scientific performed developmental validation experiments in accordance with the DNA Advisory Board (DAB) Quality Assurance Standards (October 1, 1998) and guidelines from the Scientific Working Group on DNA Analysis Methods (SWGDM, July 10, 2003) to evaluate the performance of the Applied Biosystems™ Yfiler™ Plus PCR Amplification Kit. Thermo Fisher Scientific has validated the Yfiler Plus PCR Amplification Kit for use in human identification testing.

Each laboratory using the Yfiler Plus PCR Amplification Kit should perform its own appropriate internal validation studies to establish interpretation criteria and demonstrate that the Yfiler Plus PCR Amplification Kit is appropriate and fit for its own human identification uses.

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applied biosystems
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Yfiler Plus PCR Amplification Kit

Cat. No. 4484678 and 4482730

Thermo Fisher Scientific performed developmental validation experiments in accordance with the DNA Advisory Board (DAB) Quality Assurance Standards (October 1, 1998) and guidelines from the Scientific Working Group on DNA Analysis Methods (SWGDM, July 10, 2003) to evaluate the performance of the Applied Biosystems™ Yfiler™ Plus PCR Amplification Kit. Thermo Fisher Scientific has validated the Yfiler Plus PCR Amplification Kit for use in human identification testing.

Each laboratory using the Yfiler Plus PCR Amplification Kit should perform its own appropriate internal validation studies to establish interpretation criteria and demonstrate that the Yfiler Plus PCR Amplification Kit is appropriate and fit for its own human identification uses.

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