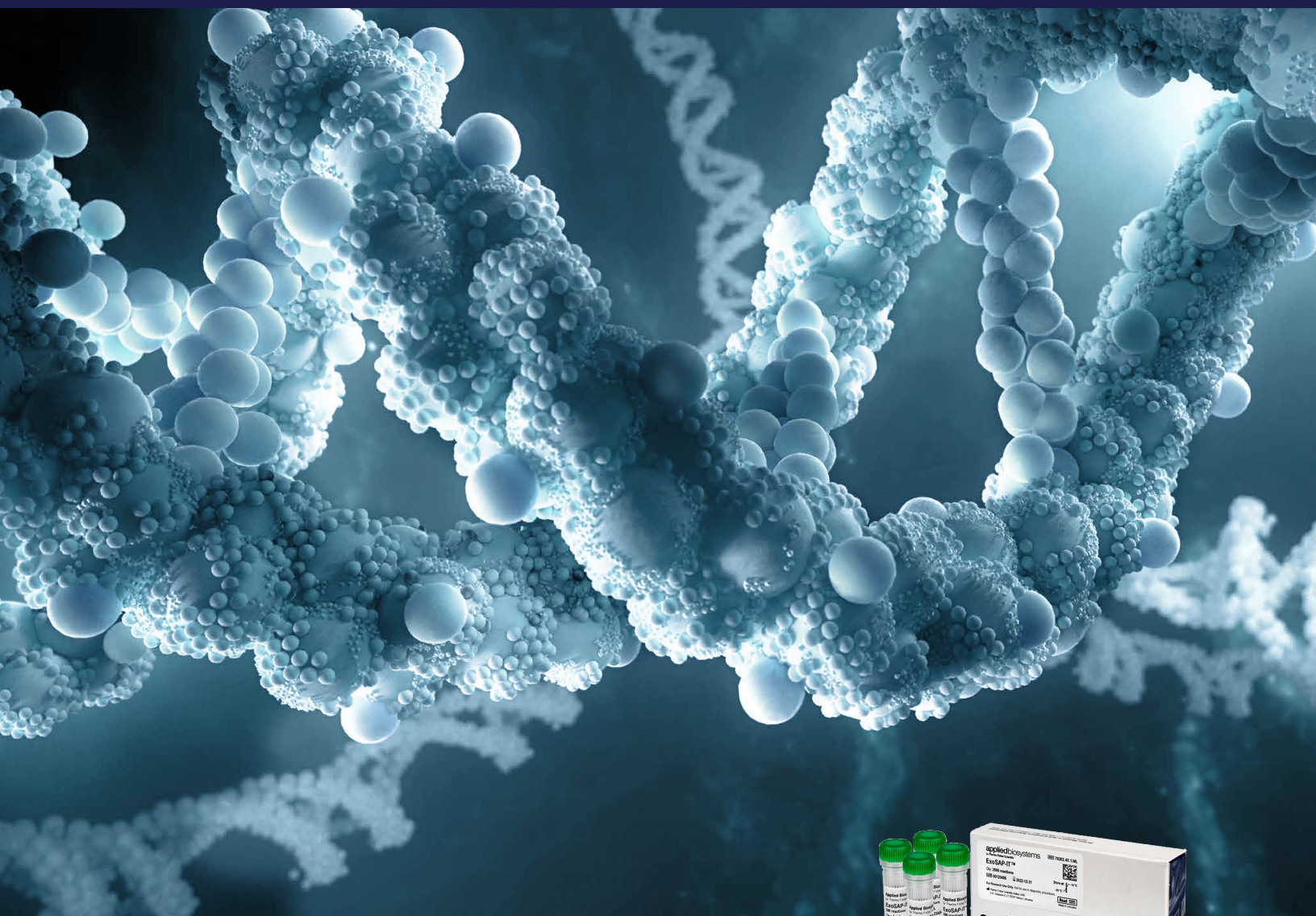


applied biosystems



ExoSAP-IT PCR cleanup reagents

One step to superior sequencing results

ThermoFisher
SCIENTIFIC

ExoSAP-IT *Express* reagent: PCR cleanup in as little as 5 minutes

Our one-step Applied Biosystems™ ExoSAP-IT™ *Express* PCR Product Cleanup Reagent enables quality sequencing results in a fraction of the time.

- **5 min protocol**—fastest enzymatic cleanup of PCR product
- **One-tube, one-step PCR cleanup**—add reagent directly to PCR product
- **Novel enzyme technology**—enzymes irreversibly inactivated in just 1 min at 80°C
- **Conserve PCR samples**—100% recovery of PCR products, regardless of amplicon length
- **Scalable**—treat PCR reaction in volumes from 5 µL to 5 mL
- **Eliminate spin columns or magnetic beads**—helps decrease time and expense while increasing yield

High-quality, accurate results

Compared with alternative PCR cleanup methods, ExoSAP-IT *Express* PCR Product Cleanup Reagent helps to ensure the availability of purified samples ready for downstream applications in just 5 minutes. This unique, highly stable one-tube solution allows for 100% recovery of DNA and longer read lengths for greater confidence, consistency, and accuracy. PCR products give superior sequencing results when treated with ExoSAP-IT *Express* reagent (Figure 1).

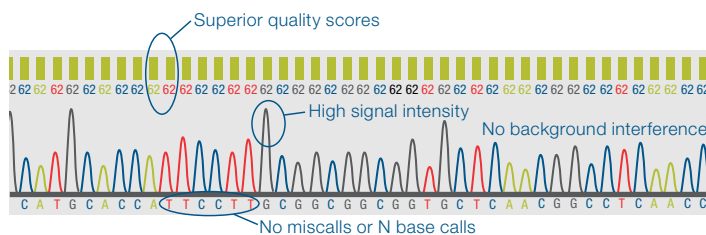


Figure 1. Sequencing results of a 1 kb PCR product treated with ExoSAP-IT *Express* reagent. Treatment with ExoSAP-IT *Express* reagent prior to sequencing eliminates miscalls and improves sequencing scores (numbers and bars above sequence; quality score >60, probability of error ≤0.0001%). Sequence shown is approximately 400 bases from the primer binding site.

Fastest PCR cleanup method

ExoSAP-IT *Express* reagent includes a novel exonuclease I that removes unincorporated primers and nucleotides with a reduced purification time. Only one pipetting step is required, simplifying the workflow and producing a sample ready for downstream applications in only 5 minutes (Figure 2).

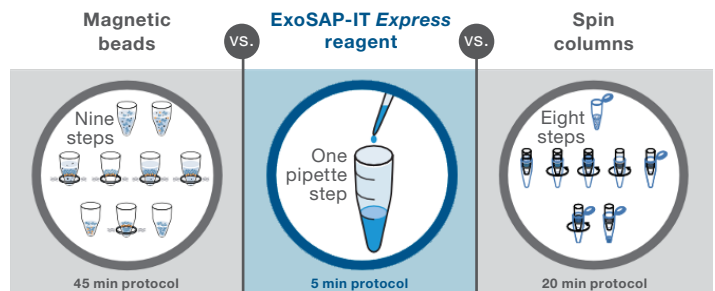


Figure 2. Comparison of cleanup methods. Use of ExoSAP-IT *Express* reagent eliminates spin columns, magnetic beads, filtration, and gel purification. With a 5 min protocol, ExoSAP-IT *Express* reagent is the fastest and easiest method for PCR cleanup, helping to minimize pipetting errors and contamination.

Conserve PCR samples—simple one-step, 100% recovery

The ExoSAP-IT *Express* enzymatic cleanup method helps minimize errors by reducing your protocol to a single pipetting step, allowing for automated or manual processing. ExoSAP-IT *Express* reagent outperforms the competition with 100% recovery of all amplicon sizes, from short to long (Table 1).

Table 1. DNA recovery after purification.

Amplicon size	Agencourt™ AMPure™ XP beads	ExoSAP-IT reagent
86 bp	10%	100%
103 bp	12%	100%
545 bp	63%	100%
1,007 bp	88%	100%

ExoSAP-IT *Express* reagent enables 100% recovery and provides effective cleanup of all amplicon sizes. In contrast, Agencourt AMPure XP beads were ineffective at purifying small amplicons, whether determined by image analysis or by the Invitrogen™ Quant-iT™ PicoGreen™ assay.

Overview

ExoSAP-IT reagents are a proprietary mixture of exonuclease I combined with shrimp alkaline phosphatase (SAP) in a specially formulated buffer that removes excess primers and dNTPs following a PCR reaction (Figure 3). Exonuclease I removes residual single-stranded primers and any single-stranded DNA produced during PCR. SAP removes the remaining dNTPs from the PCR mixture that may interfere with subsequent reactions.

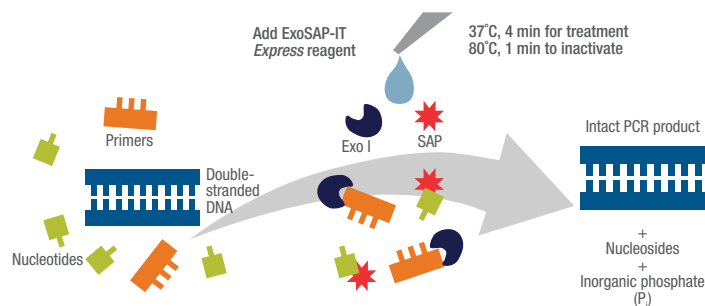


Figure 3. How ExoSAP-IT reagent works. Treat 5 μ L of PCR product with 2 μ L of ExoSAP-IT reagent. Treatment is carried out at 37°C followed by an incubation period at 80°C to completely inactivate both enzymes. Once contaminants are removed, your PCR products are ready for downstream applications such as Sanger sequencing, next-generation sequencing (NGS), fragment analysis, single-nucleotide polymorphism (SNP) analysis, *in vitro* transcription, or single-base extension.

The original ExoSAP-IT reagent formulation

Applied Biosystems™ ExoSAP-IT™ PCR Product Cleanup Reagent has been cited in over 10,000 publications. Thermo Fisher Scientific is the only manufacturer of ExoSAP-IT reagents, assuring your lab of product consistency and integrity.

- 30 min cleanup protocol
- Recommended for processing 1–96 samples at a time
- Best cost-per-reaction value

Also available in a high-throughput formulation

Applied Biosystems™ HT ExoSAP-IT™ Fast High-Throughput PCR Product Cleanup Reagent is an alternative formulation of the original ExoSAP-IT reagent, specifically designed for the unique requirements of high-throughput, automated platforms and multichannel pipettes. HT ExoSAP-IT Fast reagent quickly provides high-quality purified samples. This formulation offers decreased viscosity and is ideal for automated liquid handling platforms, with the same convenience and stability you have come to expect from ExoSAP-IT reagent.

- 14 min cleanup protocol
- Stable at 4°C for 1 month and at room temperature for 2 days
- Scalable for PCR cleanup ranging from a single tube up to a 384-well plate



Which ExoSAP-IT PCR cleanup reagent is right for you?

ExoSAP-IT reagents offer a unique one-tube, one-step enzymatic method for PCR cleanup. All ExoSAP-IT reagents provide 100% recovery of PCR products regardless of the fragment sizes. This PCR cleanup method removes excess primers and dNTPs and does not interfere

with downstream applications. Achieve superior results with ExoSAP-IT reagent—improve accuracy with higher yields and full PCR product recovery.

Use our selection guide to determine which formulation is best for your next experiment (Table 2).

Table 2. Selection guide for ExoSAP-IT reagents.

	ExoSAP-IT <i>Express</i> reagent	ExoSAP-IT reagent (original formulation)	HT ExoSAP-IT <i>Fast</i> High-Throughput reagent
Protocol time	5 min	30 min	14 min
Format	Single tube 8-tube strip	Single tube	Single tube 8-tube strip 96-well plate
Throughput level	Low to high; recommended for processing any sample size	Low to medium; recommended for processing 1–96 samples at a time	High; recommended for processing ≥96 samples at a time
Platform	Single- or multichannel pipette, automated liquid handling platforms	Single-channel pipette	Automated liquid handling platforms (lower viscosity for better handling)
Freezes at –20°C	No	No	Yes
Stability	–20°C for up to 2 years	–20°C for up to 2 years	–20°C for up to 2 years; once thawed, stable at 4°C for 1 month and room temperature for 2 days

Ordering information

Product	Quantity	Cat. No.
ExoSAP-IT <i>Express</i> PCR Product Cleanup Reagent	100 reactions	75001.200.UL
	480 reactions (8-tube strips)	75001.1.EA
	500 reactions	75001.1.ML
	2,000 reactions	75001.4X.1.ML
	5,000 reactions	75001.10.ML
ExoSAP-IT PCR Product Cleanup Reagent	100 reactions	78200.200.UL
	500 reactions	78201.1.ML
	2,000 reactions	78202.4X.1.ML
	5,000 reactions	78205.10.ML
HT ExoSAP-IT <i>Fast</i> High-Throughput PCR Product Cleanup Reagent	20 reactions	7859520RXN
	1,000 reactions	785951000RXN
	5,000 reactions	785955000RXN
	480 reactions (8-tube strips)	785951EA
	5,760 reactions (12 x 8-tube strips in a tray)	785951PK
	23,040 reactions (48 x 8-tube strips in a tray)	785954PK

Find out more at thermofisher.com/exosapit