

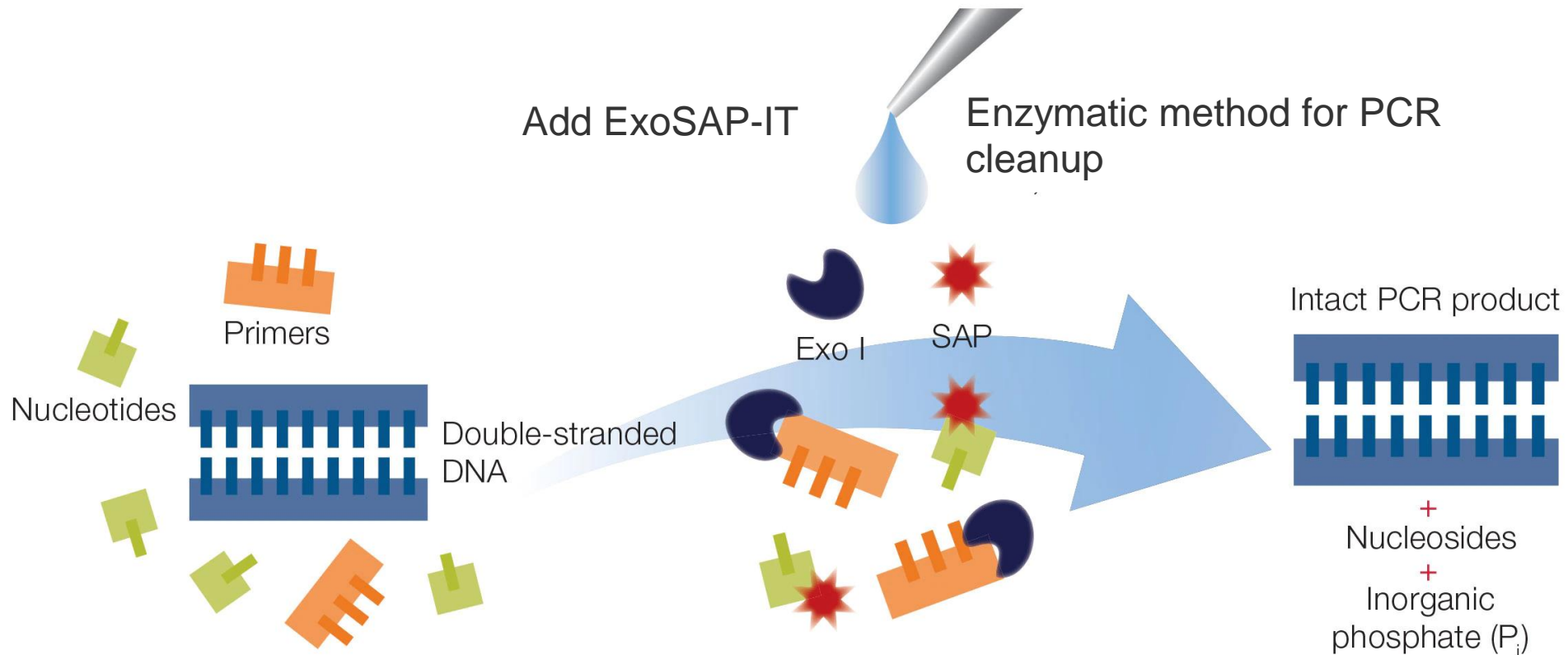


# DNA Purification

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# ExoSAP-IT: PCR Product Cleanup Reagent



# PCR Equipment and Materials

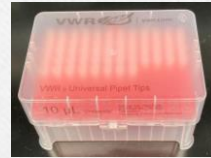
Vortex



Pipette p20



Pipette tips



PCR machine



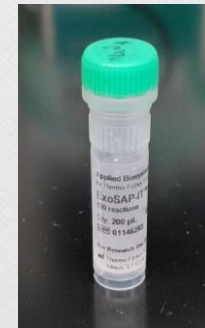
Racks



PCR tube strips



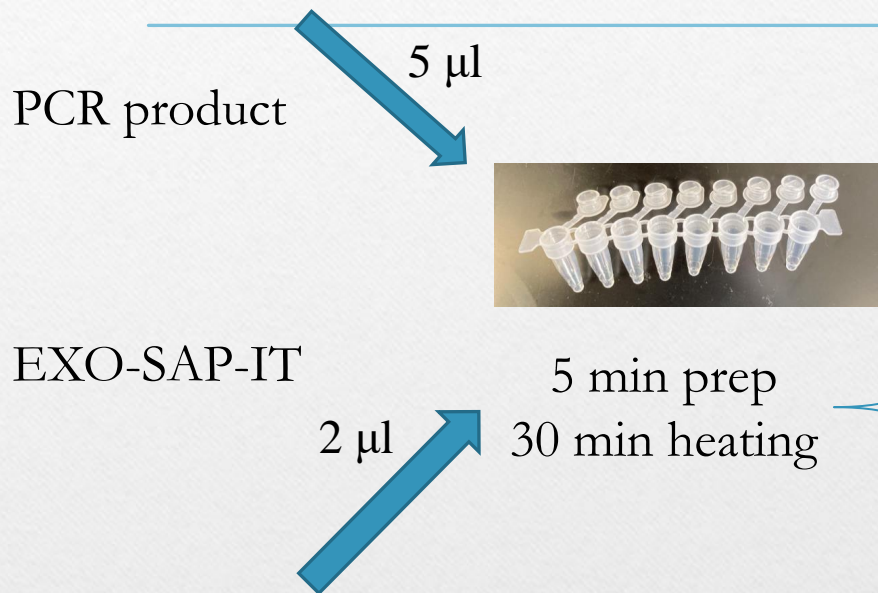
EXO-SAP-IT



Marker



# DNA Purification Protocol



appliedbiosystems

QUICK REFERENCE

## ExoSAP-IT™ PCR Product Cleanup

Brief Protocol

Catalog Number 78200, 78201, 78202, 78205, and 78250

Doc. Part No. 78200b Pub. No. MAN0016836 Rev. A.0 [02/2017]

**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).

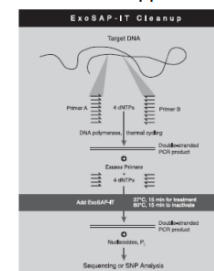
### Product description

ExoSAP-IT™ reagent treats PCR products ranging in size from less than 100 bp to over 20 kb with absolutely no sample loss by removing unused primers and nucleotides. Add ExoSAP-IT™ reagent directly to the reaction products following PCR. ExoSAP-IT™ PCR Product Cleanup is active in commonly used PCR buffers, so no buffer exchange is required. After treatment, ExoSAP-IT™ reagent is inactivated by heating to 80°C for 15 minutes. The treated PCR products are now ready for subsequent analysis in applications that require DNA to be free of excess primers and nucleotides.

### PCR cleanup protocol

- Note: Store ExoSAP-IT™ reagent at -20°C in a non-frost-free freezer.
1. Remove ExoSAP-IT™ reagent from -20°C freezer and keep on ice throughout this procedure.
  2. Mix 5  $\mu$ l of a post-PCR reaction product with 2  $\mu$ l of ExoSAP-IT™ reagent for a combined 7  $\mu$ l reaction volume. When treating PCR product volumes greater than 5  $\mu$ l, simply increase the amount of ExoSAP-IT™ reagent proportionally.
  3. Incubate at 37°C for 15 minutes to degrade remaining primers and nucleotides.
  4. Incubate at 80°C for 15 minutes to inactivate ExoSAP-IT™ reagent.
  5. The PCR product is now ready for use in DNA sequencing, SNP analyses, or other primer-extension applications. Treated PCR products may be stored at -20°C until required.

### ExoSAP-IT™ Cleanup product overview



### Customer and technical support

Visit [thermofisher.com/support](http://thermofisher.com/support) for the latest in services and support, including:

- Worldwide contact telephone numbers
- Product support, including:
  - Product FAQs
  - Software, patches, and updates
  - Training for many applications and instruments
- Order and web support
- Product documentation, including:
  - 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 found on Life Technologies' website at [www.thermofisher.com/us/en/home/global/terms-and-conditions.html](http://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](http://www.thermofisher.com/support).

**Tip:** Use PCR protocol "80" in the PCR machine to conduct both incubation steps. Remove immediately and place in the freezer.

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

ThermoFisher  
SCIENTIFIC

# Demo 1: DNA Purification Prep



# Before you go...

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- After completing the prep EXO-SAP-IT and PCR product leftovers should be placed back to the freezer
- Once the heating rounds are done the PCR tubes should be immediately removed from the PCR machine.
- Then you can either store the purified PCR products at  $-20^{\circ}\text{C}$  until you need to submit them for sequencing, or you can proceed immediately to sample preparation for sequencing.

# Image and video credits

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- Videos: DNA purification prep was demonstrated by Alina Avanesyan; recording and editing were done by Alina Avanesyan
- Photos: preparing and editing by Anya Wilkinson and Alina Avanesyan
- DNA purification protocol: modified by Alina Avanesyan; original manufacturer's protocol is available at Thermo Fisher Scientific (<https://www.thermofisher.com/>)
- Videos were recorded and photos were taken in Dr. David Hawthorne's lab: 4172 Plant Science Building, Department of Entomology, University of Maryland, College Park, MD

## Acknowledgements

- We thank Dr. David Hawthorne (Department of Entomology, University of Maryland) for providing lab equipment and lab space for our DNA barcoding work; for providing lab space to take the photos and record the videos needed for developing this course; and for continuous support and encouragement!