Ex'S-Pure™

Simple, fast and reliable enzymatic PCR cleanup

Life Technologies™
Your Molecular & Cell Technology Partner

- √ Cost-effective alternative for ExoSAP-IT™
- √ Removes excess primers and dNTP's
- √ Speed-up your workflow
- √ Add directly to your PCR product
- √ Easily incorporated in automated workflows
- √ 100% sample recovery

Introduction

NimaGen's Ex'S-Pure™ Enzymatic PCR cleanup is designed for simple, quick and easy PCR cleanup. The reagent kit consists of two hydrolytic enzymes: Exonuclease I (Exo I) and recombinant Shrimp Alkaline Phosphatase (rSAP). Together they eliminate all unwanted dNTP's and residual primers from your PCR products, which would otherwise interfere with downstream applications, such as sequencing, SNP analysis, genotyping or cloning.

How does it work?

Exonuclease I is an enzyme with 3' to 5' exonuclease activity. When introduced to a reaction mixture and heated to 37ºC, the enzyme degrades excess single-stranded primer oligonucleotides while leaving the double-stranded PCR products unaffected. Shrimp Alkaline Phosphatase (rSAP) is a multipurpose alkaline phosphatase that removes 5'-phosphates from dNTP's and proteins. Both enzymes can be fully inactivated by heating to 80ºC for 10 minutes.

The combination of these two enzymes ensures complete dephosphorylation of dNTP's and degradation of residual primers. There is no need for buffer exchange, because the reagents are active in commonly used PCR buffers.

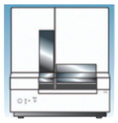
Straightforward workflow

Minimal hands-on time: just add Ex'S-Pure™ to your reaction mixture and the cleanup is performed in a single tube or microtiter well.

1. 
Add Ex'S-Pure™ to your PCR products

2. 
5 minutes incubation at 37ºC

3. 
10 minutes at 80ºC to inactivate both enzymes

4. 
Clean PCR products, immediately ready for downstream applications

100% Sample recovery

With Ex'S-Pure™ there is no need for time-consuming gel, column or magnetic bead purifications. Both short and long stranded PCR products are left completely intact.

Maximize your data quality from PCR products

DNA sequencing, SNP analysis and many other applications require PCR products which are free of dNTP's and primers. For DNA sequencing, unincorporated primers and dNTP's can lead to high background and miscalling of bases. With Ex's-Pure you can efficiently remove these contaminants and make improvements in read length and base calling.

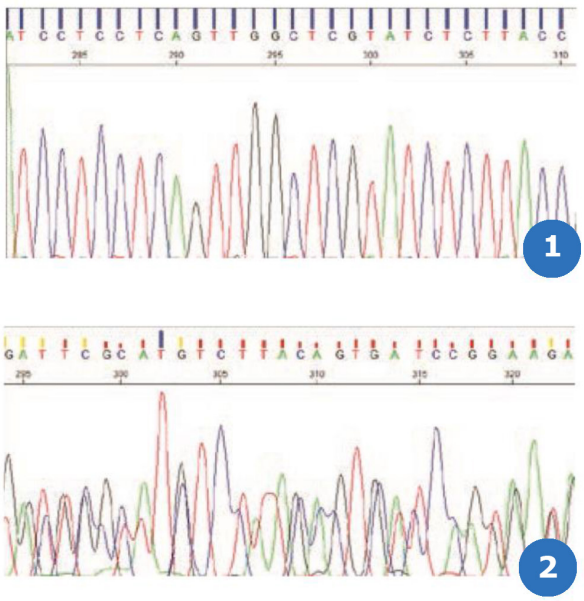


Figure 1. Chromatograph 1 shows a sample that has undergone PCR cleanup with Ex'S-Pure. Chromatograph 2 shows a sample without PCR cleanup. Significant improvements in overall sequence quality can be seen as a direct result of Ex'S-Pure.

Name	Description	P/N
Ex'S-Pure™ PCR cleanup	100 rxn	EXS-100
Ex'S-Pure™ PCR cleanup	500 rxn	EXS-500
Ex'S-Pure™ PCR cleanup	5000 rxn	EXS-5000

GET your Quote NOW

Contact

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Ex's Pure™ Enzymatic PCR Cleanup Kit

User manual

Description

The Ex'S-Pure™ Enzymatic PCR cleanup kit is designed to remove primers and inactivate nucleotides (dNTP'S) from PCR products, to make it ready for downstream applications, such as CycleSequencing.

The kit contains two enzymes:

Recombinant Shrimp Alkaline Phosphatase (rSAP): Dephosphorylates nucleotides, making them inactive in downstream processing. For cycle sequencing it is crucial to remove anyt exess of dNTP's in the template, since those may unbalance the ddNTP:dNTP ratio in the sequencing mix.

Recombinant Exonuclease I (Exo1): Degrades single stranded DNA (including oligonucleotide primers), in order to get clean sequence traces without background from the unwanted strand, generated by traces of the original PCR primers.

Both enzymes are heat labile, making it possible to inactivate the enzymes, before continuing with the following procedure. The reaction takes place in a single tube and recovers 100% of the PCR product, including very small PCR products.

Protocol

1. Transfer 5 µl of PCR product to a new micro tube
2. Add 1 µl of rSAP and 0.5 µl of Exo1
3. Place tubes in Thermal Cycler with heated lid, to prevent evaporation
4. Incubate 15 minutes at 37°C
5. Heat Inactivate 10 minutes at 90°C
6. The PCR product is now ready for sequencing. Taking care of the concentration, a further dilution step maybe required.

Rule of thumb: template input (ng) in a Brilliant Dye™Terminator Cycle Sequencing reaction can be calculated by dividing the PCR product length (bp) by 50. Example: Use 10 ng of PCR product with a length of 500 bp as template.

Tip: Add the content of the Exo1 tube to the rSAP tube after opening of the kit and mix well by pipetting up and down. Use 1.5 µl of this mix in step 2, instead of adding the separate enzymes. The enzyme mix is stable at -20°C until the expiration date.

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