MagSi-DNA clean*FIX*

Move to Simplicity

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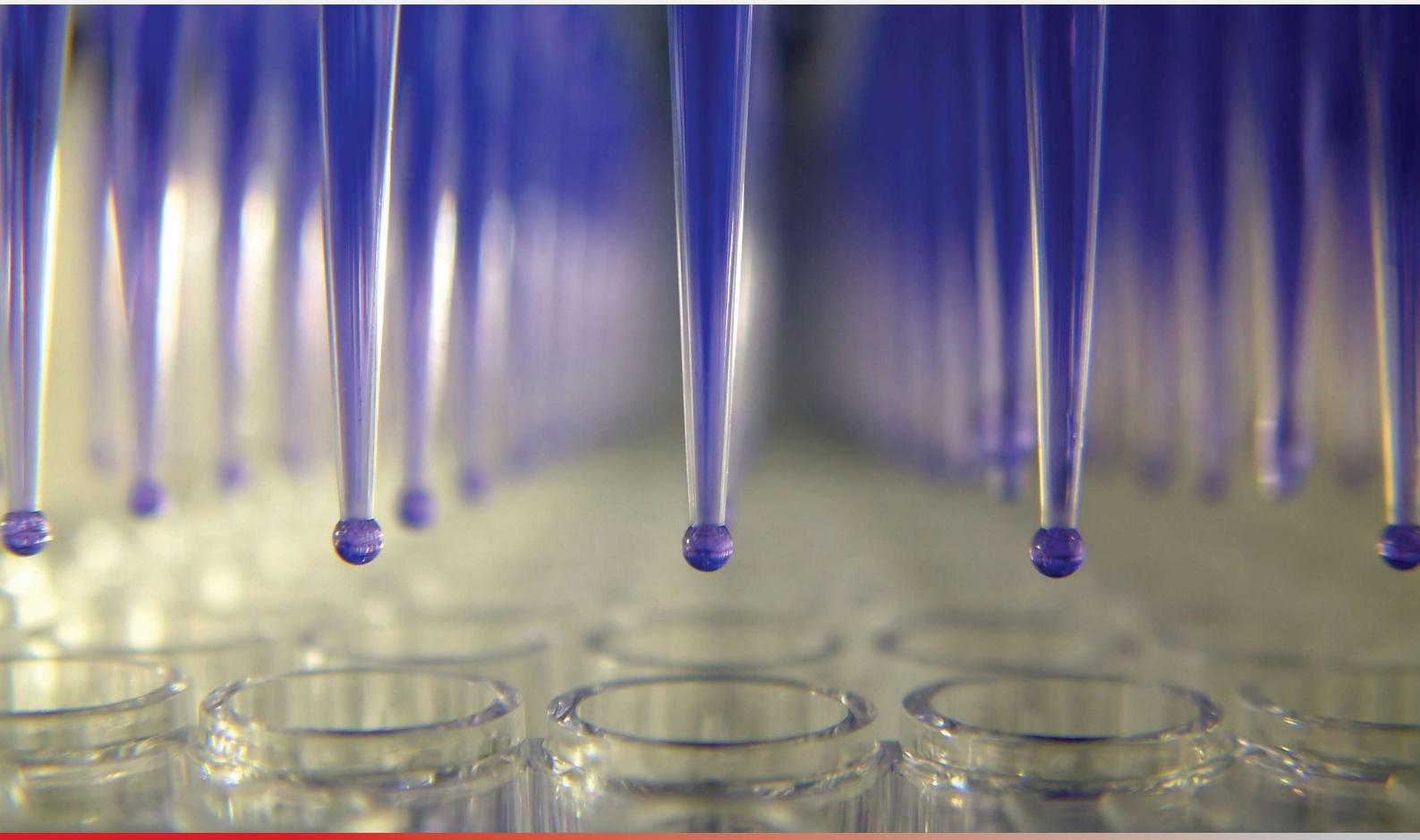

The Most Efficient Way to Clean DNA

HowTo: Replace Agencourt CleanSEQ® and AMPure® XP with MagSi-DNA clean*FIX* on Automated Liquid Handling Workstations

HowTo: Replace Agencourt CleanSEQ® and AMPure® XP with MagSi-DNA clean^{FIX} on Automation Liquid Handling Workstations

AMSBIO offers the silica magnetic bead based MagSi-DNA clean^{FIX} as one single product for PCR clean-up and Dye Terminator removal from Sanger sequencing reactions, enabling customers to address various genomic clean-up steps with the same product. MagSi-DNA clean^{FIX} uses flexible protocols and is easy to automate on high-throughput liquid handling workstations.

As such it is an excellent alternative to the widely used Agencourt AMPure® XP and CleanSEQ® products that utilize Agencourt SPRI® (Solid Phase Reversible Immobilization) magnetic bead technology.

The MagSi-DNA clean^{FIX} protocols are easily be integrated on any liquid handling workstation (e.g.: Beckman®, PerkinElmer®, Caliper®, Hamilton®, Tecan®, Agilent® and Eppendorf®).

There are two possibilities to integrate MagSi-DNA clean^{FIX} on liquid handling workstations:

1. Program and use the MagSi-DNA clean^{FIX} protocol as described in the product manual for both PCR clean-up and Dye terminator removal.
2. Make use of the installed Agencourt AMPure® XP and CleanSEQ® protocols. This will be an attractive solution to many customers as it allows them to limit the changes to their current workflow and robot protocols. Replacement procedures (A and B) for using installed Agencourt protocols are described below.

A) Replace Agencourt CleanSEQ® with MagSi-DNA clean^{FIX}:

This replacement can be done without any change in protocol settings and automation deck layout, the only adaptation you need to perform:

- Replace the Agencourt CleanSEQ® with MagSi-DNA clean^{FIX} particle mix
- Replace 85% Ethanol with MagSi-DNA clean^{FIX} alcohol mix (see Table 1).

	Agencourt CleanSEQ® A29151 – 8 mL 800/1600 Preps A29154 - 50 ml 5000/ 10000 Preps	**MagSi-DNA clean^{FIX}** MD60013 – 4 mL 400/800 Preps MD60014 - 50 mL 5000/10000 Preps
Wash solution	**85% Ethanol** to be prepared by the user	**Alcohol mix:** 42.5% Isopropanol (p.a.), 42.5% Ethanol (p.a), 15% ddH_2O to be prepared by the user

Table 1: Difference between wash solution for Agencourt CleanSEQ® and MagSi-DNA clean^{FIX}.

B) Replace Agencourt AMPure® XP with MagSi-DNA clean^{FIX}:

Agencourt AMPure® XP can be replaced with MagSi-DNA clean^{FIX} by premixing the Particle Mix and MagSi-DNA clean Buffer P and adjusting the volume of the reagents to be added. Depending on the plate format and sample volume used, the following preparations are needed:

Plate format / PCR reaction volume		**Agencourt AMPure® XP** A63880 - AMPure XP 5 mL A63881 - AMPure XP 60 mL	**MagSi-DNA clean^{FIX}** MD60013 – 4 mL (400/800 Preps) MD60014 - 50 mL (5000/10000 Preps)
96w PCR Plate	10 µL	18 µL AMPure XP (1.8 x reaction volume)	10 µL Particle Mix + 20 µL Buffer P: • Premix Particle Mix and Buffer **1:2** • adjust volume from 18 to 30 µL (**3.0 x** reaction volume)
	20 µL	36 µL AMPure XP (1.8 x reaction volume)	10 µL Particle Mix + 30 µL Buffer P: • Premix Particle Mix and Buffer **1:3** • adjust volume from 36 to 40 µL (**2.0 x** reaction volume)
384w PCR Plate	5 µL	9 µL AMPure XP (1.8 x reaction volume)	5 µL Particle Mix + 10 µL Buffer P • Premix Particle Mix and Buffer **1:2** • adjust volume from 9 to 15 µL (**3.0 x** reaction volume)
	10 µL	18 µL AMPure XP (1.8 x reaction volume)	5 µL Particle Mix + 15 µL Buffer P • Premix Particle Mix and Buffer **1:3** • adjust volume from 18 to 20 µL (**2.0 x** reaction volume)

Table 2: Adjustments for replacing AMPure® XP with MagSi-DNA clean^{FIX}

The instructions for replacing Agencourt AMPure® XP and CleanSEQ® will also apply for other products based on magnetic beads which use the same protocols (e.g.: Axygen®, Nimagen, Omega Biotek®, Aline Biosciences®, or SNOVA®).

Recommended handling guidelines for MagSi-DNA clean^{FIX}:

Before operation:

- Before use the bottle with MagSi-DNA clean^{FIX} beads should be vortexed for at least 30 seconds, and optimally >1 min before pouring the beads mixture into the container.
- When working in a hydrophobic flat bottom container fill the bead container with at least 30 ml bead suspension (approximately 3 mm reagent height)

During operation:

- Take care that the beads volume in the container remains at least 30 ml (approximately 3 mm reagent height)
- Before making a next run, it is recommended to place the beads container on a mild mixer for 5 minutes.
- When using the Agencourt Direct Inject Magnet (eliminates final transfer step), optionally place the purified and centrifuged PCR plate on a magnet for 1 minute in order to increase separation performance. Afterwards place the plate on the ABI-holder with the Direct Inject Magnet.

After operation:

- Pour beads back into the reagent bottle at the end of the day. Recovery of beads can be improved by mild mixing with a pipette. Use a separate container/bottle for premixed beads and buffer (these cannot be used for Dye Terminator removal any longer)
- When working in a flat bottom bead stock container add 0.2 ml sterile water to the beads bottle for each hour of open storage on the system.

If there is any need for support or advice, please do not hesitate to contact us. It is our pleasure to give you advice on how to implement the MagSi-DNA clean^{FIX} in your specific application and work flow.

UK & Rest of World
184 Milton Park, Abingdon
OX14 4SE, Oxon, UK
Tel: +44 (0) 1235 828 200
Fax: +44 (0) 1235 820 482

Switzerland
Centro Nord-Sud 2E
CH-6934 Bioggio-Lugano
Tel: +41 (0) 91 604 55 22
Fax: +41 (0) 91 605 17 85

Deutschland
Bockenheimer Landstr. 17/19
60325 Frankfurt/Main
Tel: +49 (0) 69 779099
Fax: +49 (0) 69 13376880

North America
23591 El Toro Rd, Suite #180
Lake Forest, CA 92630
Tel: + 1 800 987 0985
Fax: + 1 949 265 7703

amsbio
info@amsbio.com
www.amsbio.com
AMS Biotechnology