

1 OVERVIEW

This protocol is designed to perform PCR Cleanup using NimaGen's AmpliClean Cleanup Kit.

AmpliClean Reagent was developed for the purification of PCR products or fragmented DNA >100 bp from contaminants (e.g. excess primers, nucleotides, salts and enzymes) and is used for DNA/RNA cleanup for different genomic applications like NGS, PCR, Cloning and Fragment Analysis. It utilises proprietary bead technology to selectively bind nucleic acids by type and size, making it automation friendly. By automating the cleanup process, it provides a standardized workflow for improved results as well as reduction in costly errors and hands-on time.

This protocol automates the process for to 24 samples on the Myra using the Myra 96 Well Magnetic Station. The AmpliClean Cleanup workflow is as following:

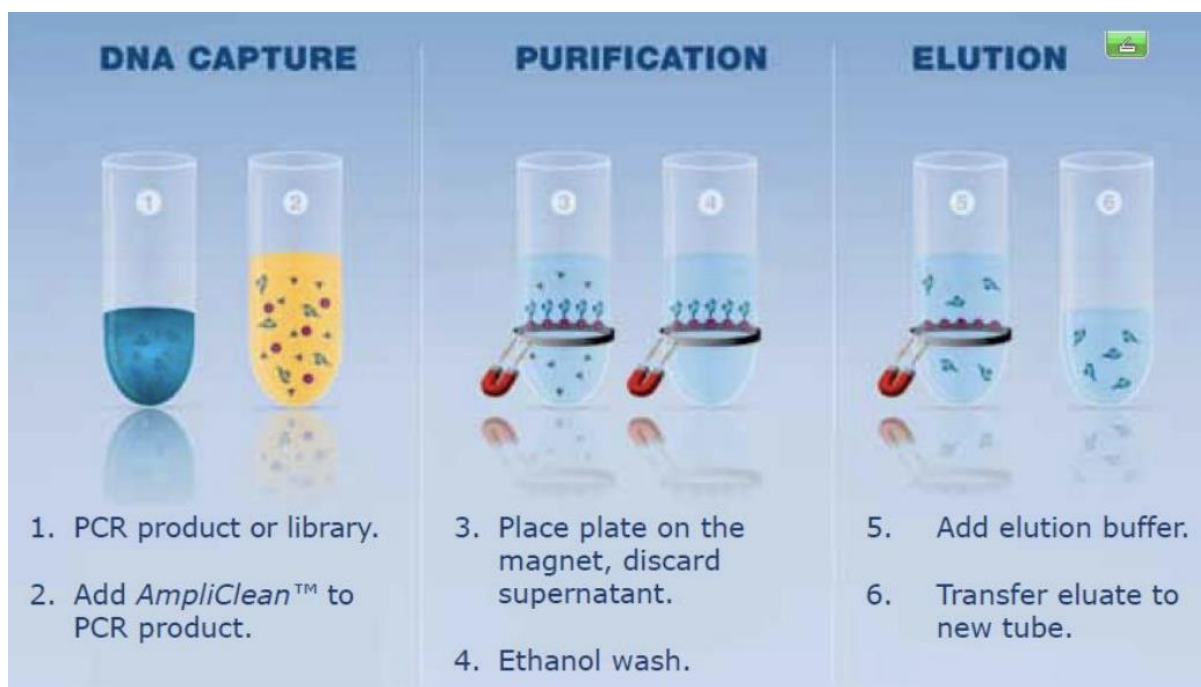


Image has been taken from AmpliClean Cleanup Kit Manual

The volumes of each reagent and times for each incubation are easily configured in the script to cover most workflows. The plate types are also easily configured and can be specified as NONE if not required for your workflow.

2 NOTES

NimaGen AmpliClean Cleanup Kit v1.0 script can only be used with BMS Workbench v1.2.0 and later.

The following components need to be prepared into tubes that can be appropriately positioned on deck:

- 70% Ethanol in Generic 5 mL Screw Cap Tube (Up to 2 tubes depending on number of samples being processed)
- AmpliClean Reagent in Generic 2 mL Screw Cap Tube (Up to 2 tubes depending on volume required per sample)
- Elution Buffer in Generic 2 mL Screw Cap Tube

It is important to prepare ethanol tubes with **AT LEAST 10% OVERAGE** as ethanol is hygroscopic where prolonged exposure can lead to volume loss due to evaporation as well as a more diluted concentration than initially prepared.


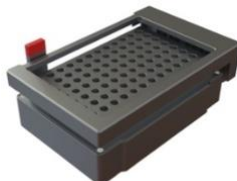
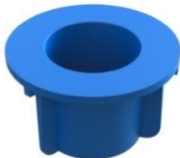
Only wells in columns 1-3 of the plate on the Myra 96 Well Magnetic Station will be magnetised. Please ensure that if you are not using a separate plate for samples that samples are in columns 1-3 so they can be processed properly.

Volumes up to 140 μL (e.g. 50 μL sample is combined with 90 μL beads) have been validated. For larger volumes, it is recommended to perform a test run using water to ensure the run is performing as expected.

Other bead-based cleanup kits could be used with this protocol if the workflow is the same. It is recommended to perform a test run using water to ensure the run is performing as expected.

3 DECK LAYOUT

3.1 REQUIRED BLOCKS AND INSERTS

Item	Image
Myra Multipurpose Loading Block	
Myra 96 Well Magnetic Station	
Myra Blue 5 mL Tube Adapter	

3.2 COMPONENTS AND CONSUMABLES REQUIRED

Components Required	Qty
Samples in Generic 96 Well 0.2 mL Skirted Plate	Up to 24 samples
AmpliClean Reagent	As calculated
70% Ethanol	As calculated + at least 10% overage
Elution Buffer	As calculated


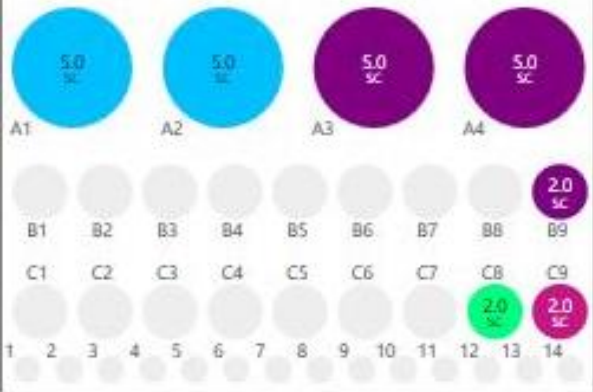
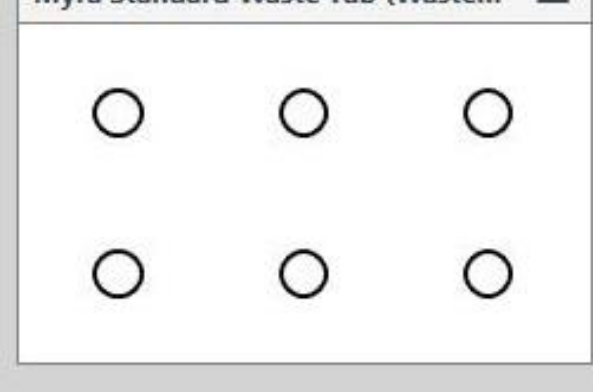
Consumables Required	Qty
Myra 384 Well Tips Rack	1
Generic 96 Well 0.2 mL Skirted Plate	1-2
Generic 5 mL Screw Cap Tube as Waste Tube	1-2
Generic 2 mL Self-Standing Screw Cap Tube as Waste Tube	0-2

3.3 DECK PLACEMENT

Socket A	Socket C
Myra 384 Well Tips	Generic 96 Well 0.2 mL Skirted Plate containing samples (optional)
Socket B	Socket D
<p>Myra Multipurpose Loading Block with</p> <p>A1: Ethanol 1 in Generic 5 mL Screw Cap Tube Requires Myra Blue 5 mL Tube Adaptor</p> <p>A2: Ethanol 2 (if required) in Generic 5 mL Screw Cap Tube Requires Myra Blue 5 mL Tube Adaptor</p> <p>A3: Waste Tube 1 in Generic 5 mL Screw Cap Tube Requires Myra Blue 5 mL Tube Adaptor</p> <p>A4: Waste Tube 2 (if required) in Generic 5 mL Screw Cap Tube Requires Myra Blue 5 mL Tube Adaptor</p> <p>B9: Waste Tube 3 (if required) in Generic 2 mL Screw Cap Tube</p> <p>C8: Beads in Generic 2 mL Screw Cap Tube</p> <p>C9: Elution Buffer in Generic 2 mL Screw Cap Tube</p> <p>The script will automatically determine the number of ethanol and waste tubes required based on number of samples and volumes. Check <i>Deck Layout</i> to confirm requirements.</p>	<p>Generic 96 Well 0.2 mL Skirted Plate sitting on top of Myra 96 Well Magnet Station</p> <p>Can contain samples if correct volumes are in plate wells</p>
Socket Waste	Socket E
Standard Waste Tub	Generic 96 Well 0.2 mL Skirted Plate (optional)

Myra Multipurpose Loading Block 🔍 ⚙️ ☰

A1		A2		A3		A4							
Ethanol 1		Ethanol 2		Waste Tube 2		Waste Tube 1							
5.0 SC		5.0 SC		5.0 SC		5.0 SC							
B1	B2	B3	B4	B5	B6	B7	B8	B9					
								Waste Tube 3					
								2.0 SC					
C1	C2	C3	C4	C5	C6	C7	C8	C9					
							Beads	Elution Buffer					
							2.0 SC	2.0 SC					
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14

<p>Myra 384 Well Tips 🔍 ⚙️ ☰</p> 	<p>Generic 96 Well 0.2 mL Skirt... 🔍 ⚙️ ☰</p> <table border="1"> <thead> <tr> <th></th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> <th>11</th> <th>12</th> </tr> </thead> <tbody> <tr><th>A</th><td>●</td><td>●</td><td>●</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><th>B</th><td>●</td><td>●</td><td>●</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><th>C</th><td>●</td><td>●</td><td>●</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><th>D</th><td>●</td><td>●</td><td>●</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><th>E</th><td>●</td><td>●</td><td>●</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><th>F</th><td>●</td><td>●</td><td>●</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><th>G</th><td>●</td><td>●</td><td>●</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><th>H</th><td>●</td><td>●</td><td>●</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>		1	2	3	4	5	6	7	8	9	10	11	12	A	●	●	●										B	●	●	●										C	●	●	●										D	●	●	●										E	●	●	●										F	●	●	●										G	●	●	●										H	●	●	●									
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4 REVISION HISTORY

Date	Revision	Changes
17 th January 2024	v1.0	Initial version