1 OVERVIEW

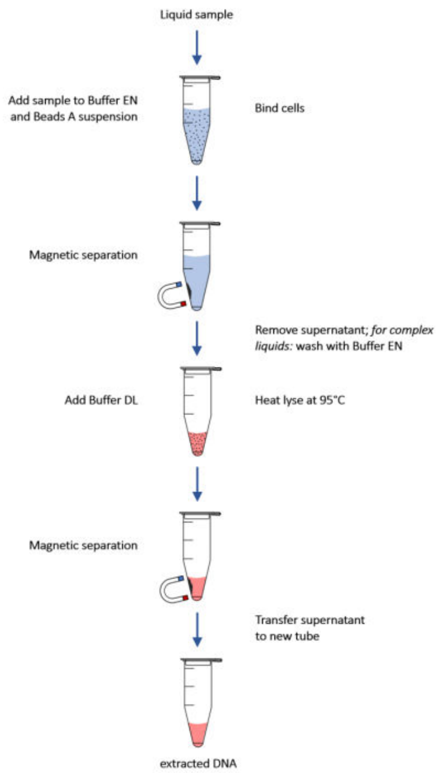
SwiftX™ DNA is designed for rapid extraction of DNA from a wide range of biological samples, including whole blood. The different components of SwiftX™ DNA have specific functionalities within the workflow of DNA extraction.

Buffer EN stabilises biological cells such as bacteria, epithelial cells, white blood cells, protozoa during cell capturing and enables efficient binding of biological cells to the paramagnetic particles.

The paramagnetic particles **Beads A** show a broad binding property to cells and proteins. This effect is leveraged in two ways during SwiftX™ DNA-based extraction. Firstly, Beads A enable a species-independent concentration of cells from liquid specimens. Secondly, during and after heat lysis, Beads A are utilised to remove cell debris and other particulate matter from the lysis mixture.

In conjunction with application of heat, **Buffer DL** enables an efficient lysis of viruses, bacteria, protozoa, and animal cells. **Buffer DL** is fully compatible with a wide range of amplification chemistries.

Cell capturing with subsequent extraction procedure and reverse purification



The Myra offers an automated solution in running whole blood cells with the SwiftX™ DNA Extraction Kit, by utilising the Myra 96 Well Magnet Station.

2 NOTES

The SwiftX™ DNA Extraction Protocol (Blood Only) v1.0 script can only be used with BMS Workbench v1.4.0 and later.

As it is not possible for the Myra to pipette from blood tubes placed on the deck, blood must be aliquoted into plasticware compatible with the Myra. Compatible plasticware can be found in the *Tube Library* section in a MyraScript Run.
(*Note:* Some plasticware, such as a 0.5 mL Flip Cap Tube, should be loaded on deck with an adapter.)

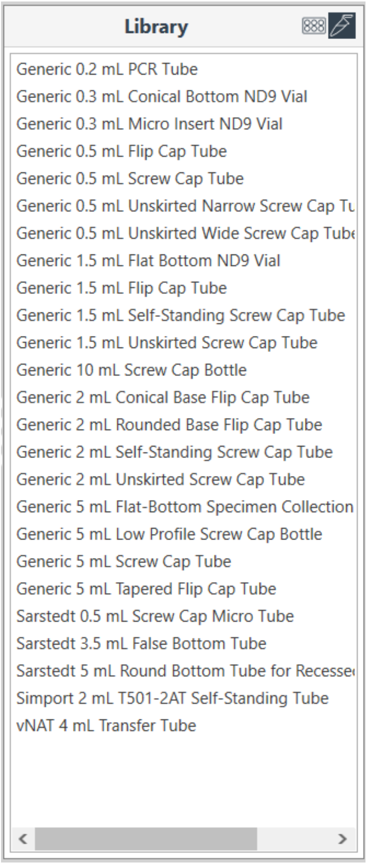


Figure 1. Compatible tube types with the Myra.

The following component needs to be aliquoted or prepared into tubes that can be appropriately positioned on deck:

- Buffer EN in Generic 5 mL Screw Cap Tube

2.1 SAMPLE EDITOR

This script can process up to 8 samples a time. To process fewer than 8 samples, delete the associated rows for the Source Well ID and Name.

Samples (8)

Search

	Source Well ID	Sample Name
1	A1	Sample 1
2	A2	Sample 2
3	A3	Sample 3
4	A4	Sample 4
5	A5	Sample 5
6	A6	Sample 6
7	A7	Sample 7
8	A8	Sample 8

Figure 2. A capture of the sample editor table for the script.

2.2 SOURCE INFORMATION

At the beginning of the script, there is a *Source Information* section where the type of tube blood is being aliquoted in can be defined. This tube type can be replaced with any item from the *Tube Library*.

MyraScript

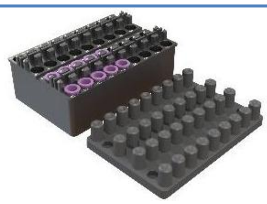
```
# Source information
sourceTubeType = "Generic 2 mL Self-Standing Screw Cap Tube"

```

Figure 3. A capture of the user configurable parameters for this script.

3 DECK LAYOUT

3.1 REQUIRED BLOCKS AND INSERTS

Item	Image
Myra Multipurpose Loading Block	
Myra 36x Microcentrifuge Tube Loading Block	
Myra 96 Well Magnet Station	

3.2 COMPONENTS AND CONSUMABLES REQUIRED

Components Required
1X SwiftX™ DNA extraction kit by Xpedite Diagnostics

Consumables Required	Qty
Myra 384 Well Tips	1 rack
Generic 5mL Screw Cap Tube as Waste Tube	1
Generic 96 Well 0.2 mL Skirted Plate	1

3.3 DECK PLACEMENT

Socket A	Socket C
Myra 384 Well Tips	Myra 36x Microcentrifuge Loading Block containing blood aliquoted into Myra compatible tubes.
Socket B	**Socket D**
Myra Multipurpose Loading Block with: A1: Generic 5 mL Screw Cap Tube containing Buffer EN A2: 5.0 mL Low Profile Screw Cap Bottle (Reagent Bottle) containing Buffer DL A4: Generic 5 mL Screw Cap Tube for Waste B9: 2.0 mL Self-Standing Screw Cap Tube containing Beads	Generic 96x 0.2 mL Tubes or Strips without Attached Caps sitting on top of Myra 96 Well Magnet Station
Socket Waste	**Socket E**
Standard Waste Tub	Generic 96 Well 0.2 mL Skirted Plate

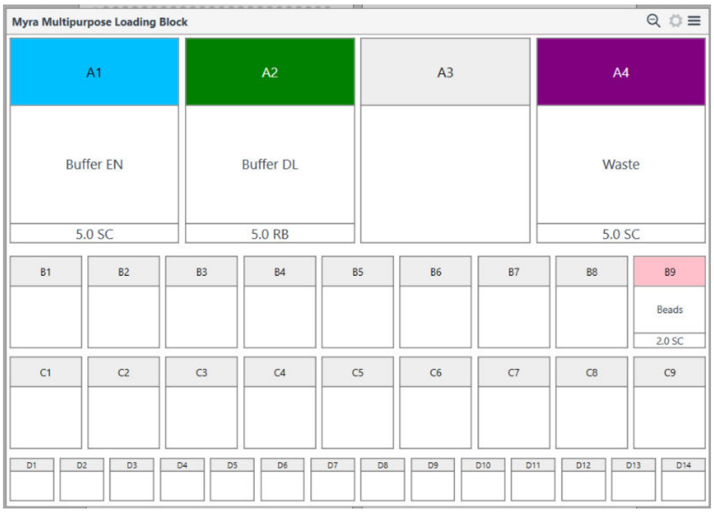


Figure 4. A capture of the Myra Multipurpose Loading Block in this script.

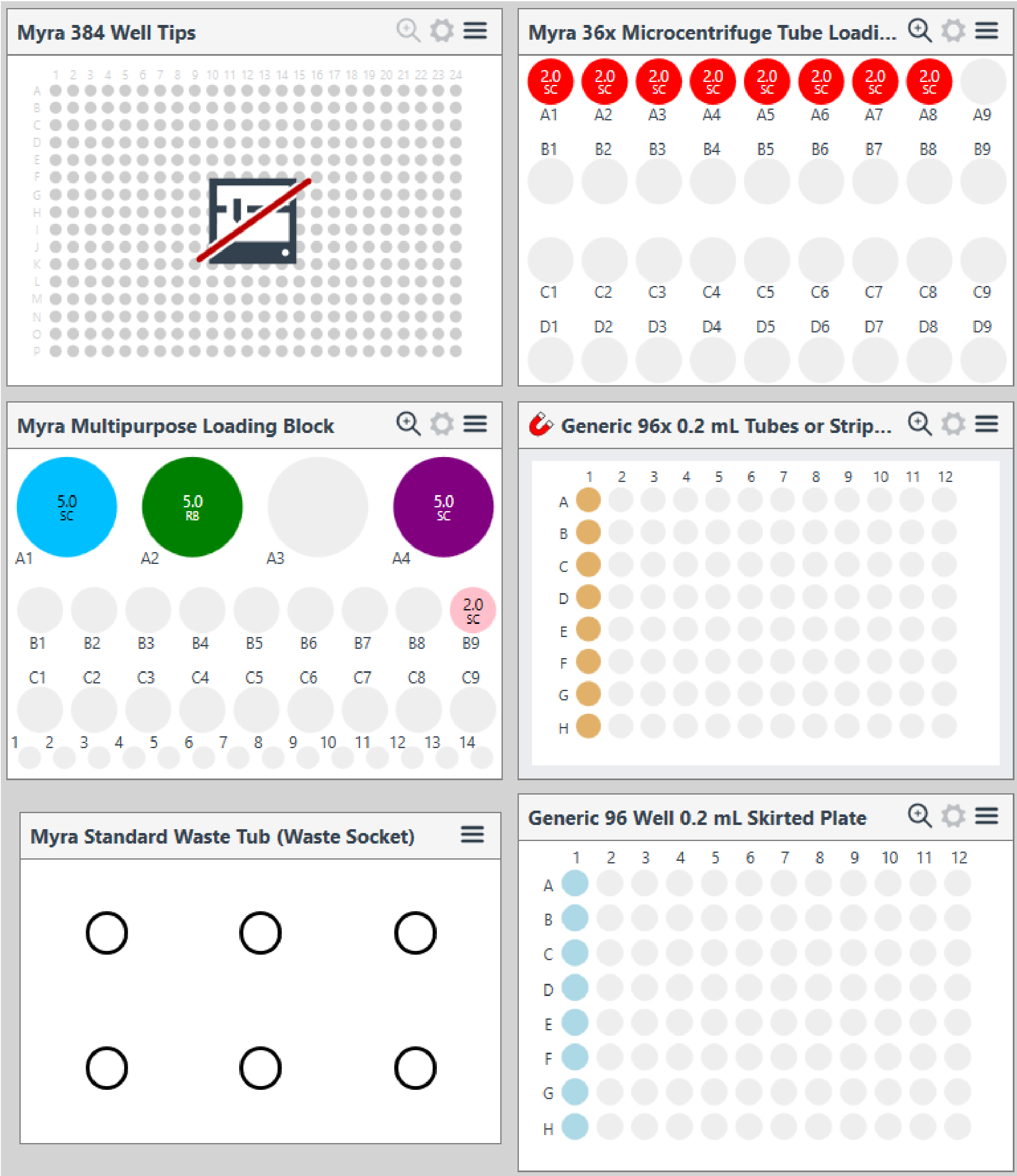


Figure 5. A capture of the Myra deck layout for the script.

4 REVISION HISTORY

Date	Revision	Changes
07.02.2025	v1.0	Initial version