

Quick start guide: PreOmics kits processing with TECAN Resolvex® A200

Applicable PreOmics cartridge-based kits	Product Code
IST 96x	P.O.00027
IST 96x HT	P.O.00150
IST 96x HT DV	P.O.00198
IST-NHS 96x	P.O.00030
IST-NHS 96x HT	P.O.00151
IST-NHS 96x HT DV	P.O.00253
IST-BCT 96x	P.O.00099
IST-BCT 96x HT	P.O.00148
IST-BCT 96x HT DV	P.O.00166
ENRICH-IST 96x	P.O.00164
ENRICH-IST 96x HT	P.O.00165

***IMPORTANT*:** The WASH 1, WASH 2, and ELUTE buffer volumes provided in the kits are not sufficient for devices with high solvent consumption, such as the A200 platform. For this reason, we recommend ordering the “iST-REG-PSI Buffer Add-on” (P.O.00109). Additionally, distilled water (not included in the kit) must be used as “Flush Solvent”.

Introduction

Resolvex® A200 is a positive-pressure system from TECAN to perform peptide sample cleanup in an automated and reproducible manner.

- For the A200 pipetting head to detect the correct PreOmics cartridge plate position, it is required to use the 3D printed “PreOmics A200 cartridge retainer” (P.O.00168), which can be obtained free of charge from PreOmics (Figure 1). This ensures proper cartridge positioning and prevents cartridge movement when pressure is applied.

IMPORTANT NOTE: Store the PreOmics A200 Cartridge Retainer at room temperature in a dry environment, away from direct sunlight.

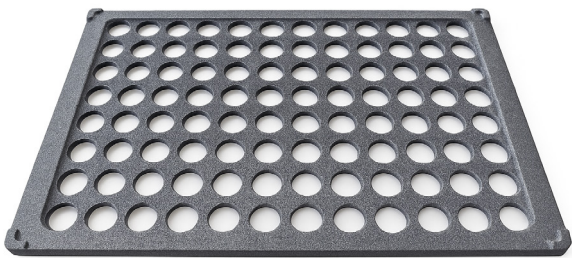


Figure 1. PreOmics A200 cartridge retainer.



Figure 2. Orientation of PreOmics A200 cartridge retainer.

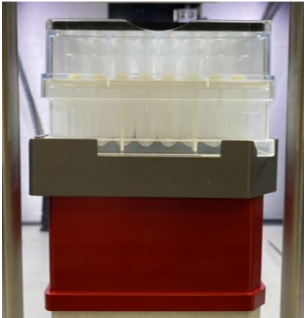
General instrument settings

IMPORTANT Gas supply	Make sure that the gas supply is set to 80 psi by a regulator. Nitrogen is favored above compressed air to avoid artificial oxidation.
Settings\Pumps\Flush Vol [μLs]	1500
Settings\Pumps\Flush Count	3
Solvents\Other\AntiDrip Volume [μL/w]	50

Work deck and buffer preparation

- Distilled water should be used as “Flush Solvent” and is not provided in the kit.
- Before starting the purification protocol on the Resolvex® A200, unscrew the WASH 1, WASH 2, and ELUTE buffer vials and replace the lids with suitable lids that have openings for the tubing. Ensure that the buffer lines reach the bottom of the vials. For the “iST-REG -PSI Buffer Add-on”, GL40 solvent caps can be used (e.g., SCAT Europe part nr.: 307101).
- Before starting the protocol, prime all buffer lines that are used in the protocol (WASH 1, WASH 2, ELUTE, ddH2O as “Flush Solvent”) using at least 2*5 mL of each buffer for priming. Make sure that no air bubbles are visible in the lines.
- ***IMPORTANT*** To guarantee optimal purification performance, it is essential to keep the following priming sequence: WASH 1 – WASH 2 – ELUTE – ddH2O.
- It is possible to use a partial plate configuration, i.e., using less than 96 cartridges in the ADAPTER PLATE. In this case, it is recommended to prefer positions towards the sides of the plate over positions towards the middle because they are more rigid.
- Before running any pipetting steps, place the cartridge retainer on the ADAPTER PLATE (orientation as in Figure 2).

Recommended consumables and platform setup

Steps	Adapter stack set-up	
LOAD and WASH	CARTRIDGES in ADAPTER PLATE cartridge retainer placed on top Rise high spacer BGO Red (Tecan part nr. 30168299) Adapter barrier nesting 96-well SPE (Tecan part nr. 30179631)	
ELUTE	CARTRIDGES in ADAPTER PLATE cartridge retainer placed on top ELUTE PLATE Adapter barrier nesting 96-well SPE (Tecan part nr. 30179631) Rise high spacer BGO Red (Tecan part nr. 30168299)	

Method

NOTE: The method presented here includes PAUSE steps, which are helpful for validation (e.g., completeness of flow-through). They can be deleted for routine operation.

#	Operation	Solvent	Parameter 1	Message	Parameter 2
1	Message only			Please Position Cartridge Plate	
2	Flash		PreOmics_iST-CART_LOAD		Positive Pressure Release: Yes
3	Pause				
4	Dispense reagent	PreOmics_iST_WASH1	200 µL		
5	Flash		PreOmics_iST-CART_WASH1		Positive Pressure Release: Yes
6	Pause				
7	Dispense reagent	PreOmics_iST_WASH2	200 µL		

#	Operation	Solvent	Parameter 1	Message	Parameter 2
8	Flash		PreOmics_iST-CART_WASH2		Positive Pressure Release: Yes
9	Pause				
10	Message only			Switch to the Collection Plate	
11	Elute	PreOmics_iST_ELUTE	100 µL		
12	Flash		PreOmics_iST-CART_ELUTE1		Positive Pressure Release: Yes
13	Pause				
14	Elute	PreOmics_iST_ELUTE	100 µL		
15	Flash		PreOmics_iST-CART_ELUTE2		Positive Pressure Release: Yes

Pressure profiles

The pressure profiles listed below are intended as general recommendations. When setting up the method on your positive pressure device for the first time, for a new sample type or application, ensure complete flow-through of the samples and adjust pressure or time as necessary. The optimal velocity of the flow-through is one droplet per second. The Pressure Range is set to "High" for all recommended pressure profiles and specifies the total time of the pressure profile.

PreOmics_iST-CART_LOAD			PreOmics_iST_CART_WASH1		PreOmics_iST_CART_WASH2	
#	Time [s]	Pressure [%]	Time [s]	Pressure [%]	Time [s]	Pressure [%]
1	0	0	0	0	0	0
2	2	15	2	15	2	15
3	60	15	60	15	60	15
4	62	20	62	20	62	20
5	90	20	118	20	118	20
6	92	30	120	1	120	1
7	119	30				
8	120	1				

PreOmics_iST-CART_ELUTE1			PreOmics_iST-CART_ELUTE2	
#	Time [s]	Pressure [%]	Time [s]	Pressure [%]
1	0	0	0	0
2	2	2	2	2
3	60	2	60	2
4	62	5	62	5
5	90	5	90	5
6	92	8	92	10
7	118	8	118	10
8	120	1	120	1

Solvent Parameters

Name	Aspirate speed	Dispense speed	Bubble purge	Anti-Drip
PreOmics_iST_WASH1	80	50	0	50
PreOmics_iST_WASH2	80	50	0	50
PreOmics_iST_ELUTE	50	50	0	50

For further information, please contact your PreOmics representative, visit the TECAN website, or consult your TECAN application specialist.