Purilogics™
By Donaldson

Purexa™ OdT 2mL Cassette; 0.5µm Pore Size

Membrane Chromatography Product
User Manual

INTRODUCTION

Purilogics® mRNA membrane chromatography cassette, Purexa™ OdT, is *NOT* intended for use in clinical or diagnostic procedures and is intended for research purposes only.

SPECIFICATION

Membrane Bed Volume	2 mL
Pore Size	0.5µm
Housing Material	Acetal
Recommended Flow Rate	10 - 20 mL/min
Maximum Operating Pressure	1 MPa
Loading/Running Buffer Example	50 mM Sodium Phosphate + 250 mM NaCl, pH 7.0
Wash Buffer Example	50 mM Sodium Phosphate pH 7.0
Elution Conditions Example	Deionized water
Cleaning Solution Example	0.1 M NaOH. A CIP cycle prior to first use is recommended

MATERIALS SUPPLIED

The Purexa OdT cassette is supplied with inlet, outlet, and vent caps. We recommend applying teflon tape to all of the adapters and caps to improve the seal.

PRIMING

Purexa OdT cassettes are shipped in 20% ethanol and require priming before use. To aid in the clearance of air from the cassette, a venting cap has been integrated into the exterior of the housing.

- Prior to use, remove caps from the inlet and vent on that side. Then connect the inlet to FPLC using a M6 to 10-32 adaptor.
- Commence flow with equilibration buffer at a flowrate of 10 mL/min or lower, tilting the cassette such that the vent is located at the top to allow bubbles to purge. Once no bubbles are observed, add the vent plug.
- Remove caps from the outlet and the vent on the other side. Connect the outlet to FPLC and follow the same procedure described above.
- It is recommended to run a few milliliters of running buffer through the cassette in both downflow and upflow directions to clear any entrapped air. Once pressure and UV have stabilized, flow may be resumed in the downflow orientation. The cassette is now ready for use.

AN EXAMPLE OF A BIND-AND-ELUTE PROCESS CYCLE

Optimal conditions will be target specific and will also be contingent on the level and type of impurities present in feed. Below are suggested starting conditions and some modifications to try to aid in determination of optimal conditions.

Continued

Equilibration: Run loading buffer through the cassette to equilibrate. It is recommended to increase binding, by further increasing the concentration of NaCl without precipitating mRNA.
Loading: Inject mRNA feed through the cassette.
Washing: Load cassette with 50mM Phosphate pH 7.0 until conductivity stabilizes.
Elution: Elute using Deionized water. High concentration mRNA may cause high viscosity in eluate which may lead to higher elution pressure. If pressure is too high, adjust the flow rate as needed.

NOTE: One may need to increase or decrease phosphate and/or NaCl concentrations for particular cases.

STORAGE

For Clean-in-Place (CIP), we recommend running 0.1 M NaOH through the cassette until UV signal stabilizes and then run additional equilibration buffer to return to loading condition. A CIP cycle is recommended between each bind and elute cycle and at the end of each purification run.

To store, run deionized water through the device until conductivity is at 0.0 mS/cm. We then recommend filling the cassette with 20% ethanol solution, capping inlet, outlet, and vents and storing in a qualified sealable bag between 2-8°C and protected from sunlight.

For installation instruction on an AKTA FPLC, please visit https://www.purilogics.com/howto and enter the password: Purexa

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