

# Vivapore®

Concentration of Patient Samples  
for *in vitro* Diagnostics

## Benefits

- Safe to use with no risk of cross contamination
- Economical with no need for additional equipment
- Increased sensitivity due to high recoveries of disease markers



## Product Overview

For *in vitro* diagnostic (IVD) sample preparation in clinical laboratories, Vivapore® offers exceptional economy and ease-of-use. These devices enable the concentration of various disease markers from patient samples prior to detection and diagnosis.

The low-shear solvent absorption technique requires no additional equipment - simply fill the unit with the sample to be concentrated and wait until the required concentration level has been reached.

# Product Information

Vivapore® is ideal for the concentration of multiple patient sample types. To ensure regulatory compliance, only devices that have been registered with local or regional health authorities can be used for in vitro diagnostic (IVD) applications.

Vivapore® devices feature highly hydrophilic polyethersulfone (PES) membranes, which have been specially formulated for low protein binding and high ultrafiltration speed without using a pressure or vacuum source. They therefore represent the most economical and convenient choice in clinical laboratories, with no need for additional equipment and freeing up centrifuge capacity for other applications.

Depending on the device selected, Vivapore® can accommodate initial sample volumes from 1 - 20 mL and achieve up to 400-fold concentrations:

**Vivapore® 5** is suited to concentrating up to 5 mL sample volumes, providing up to 100-fold concentrations.

**Vivapore® 10 | 20** can be used to concentrate 10 mL samples or, with the optional expansion reservoir, up to 20 mL initial sample volumes can be processed. These devices enable concentrations of up to 200 to 400-fold.

# Technical Specifications

	Vivapore® 5	Vivapore® 10   20
<b>Dimensions</b>		
Sample capacity	1 - 5 mL	2 - 10 or 20 mL*
Dimensions (W   H)	42   82 mm	46   100 mm
Active membrane area	20 cm <sup>2</sup>	28 cm <sup>2</sup>
Dead-stop volume	50 µL	50 µL
Max. concentration factor	100x	400x
<b>Materials of Construction</b>		
Concentrator	SAN	SAN
Reservoir (optional)	-	SAN
Membrane	Polyethersulfone	Polyethersulfone

\* up to 20 mL with optional 10 mL expansion reservoir (Order no. VPA006)

# Typical Applications

- Concentration of patient samples prior to electrophoresis or immuno-electrophoresis
- Concentration of urine, cerebrospinal fluid, or plasma to detect disease markers such as Bence Jones Protein

# Bence Jones Proteins

The concentration in urine at which Bence Jones Proteins indicate a pathological condition is 0.06 mg/mL<sup>1</sup>. Vivapore® can recover and allow for detection of Bence Jones Proteins from urine samples with initial concentrations as low as 0.008 mg/mL. Therefore, Vivapore® can provide increased sensitivity in IVD procedures, and potentially enable early diagnosis of multiple myeloma.

# References

1. Dammacco and Waldenström (1968). Bence Jones Proteinuria in Benign Monoclonal Gammopathies. Journal of International Medicine **184**, 403-409.

# Performance Characteristics

Time to concentrate up to 10x at 20°C and solute recovery

	Vivapore® 5	Vivapore® 10   20	
Expansion Reservoir	-	without reservoir	with reservoir
Start volume	5 mL	10 mL	20 mL

	Time	Recovery	Time	Recovery	Time	Recovery
Cytochrome c (12.6 kDa)	35 min	90%	75 min	90%	150 min	92%
BSA (66 kDa)	30 min	92%	55 min	92%	115 min	92%
IgG (160 kDa)	40 min	75%	70 min	77%	160 min	78%

Time to concentrate up to 50x at 20°C and solute recovery

	Vivapore® 5	Vivapore® 10   20	
Expansion Reservoir	-	without reservoir	with reservoir
Start volume	5 mL	10 mL	20 mL

	Time	Recovery	Time	Recovery	Time	Recovery
Cytochrome c (12.6 kDa)	65 min	91%	70 min	88%	160 min	90%
BSA (66 kDa)	45 min	90%	50 min	90%	105 min	92%
IgG (160 kDa)	50 min	53%	65 min	65%	140 min	74%

## Ordering Information

Vivapore® 5	Quantity	Order No.
7.5 kDa MWCO PES	4	VP0503*
7.5 kDa MWCO PES	30	VP0501*
7.5 kDa MWCO PES	100	VP0502

Vivapore® 10   20	Quantity	Order No.
7.5 kDa MWCO PES	4	VP2003**
7.5 kDa MWCO PES	30	VP2001**
7.5 kDa MWCO PES	100	VP2002

Vivapore® accessories	Quantity	Order No.
Vivapore® stand for 4 devices	6	VPA002
Vivapore® 10   20 Expansion Reservoir	10	VPA006

\* Vivapore® 5 devices supplied with one disposable stand to support up to four devices

\*\* Vivapore® 10|20 devices supplied with one disposable stand to support up to four devices, and one expansion reservoir

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