

Vivapure® C18 Micro spin columns

Technical data and operating instructions.
For *in vitro* use only.

Vivapure® C18 Micro spin columns

Storage conditions / shelf life

Vivapure® C18 Micro spin columns are stored at room temperature. The columns should be used within 1 year from date of manufacture.

Introduction

Vivapure® C18 Micro spin columns are innovative membrane-based devices for concentration, purification and desalting of peptides prior to analysis by mass spectrometry. The columns are prepacked with a membrane containing C18 hydrophobic chains for reversed-phase chromatography.

The Vivapure C18 spin columns are the size of standard microcentrifuge tubes. Thus, a few centrifugation steps replace tedious repetitive pipetting procedures for sample preparation. Moreover, this centrifugal format allows multiple samples to be processed in parallel without need of expensive special equipment.

With Vivapure C18 spin columns, up to 200 µl of highly dilute peptide solutions can simultaneously be desalted and concentrated. This results in higher resolution of the MALDI MS spectra, enabling the analysis of less than 25 fmol of proteins.



Technical assistance

For more information, please contact the Vivascience Support Center.

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Vivapure® C18 Micro spin columns

Cat. No.	VS-RP218L24
Vivapure® C18 Micro spin columns	24
Micro collection tubes, 200 µl	24
Collection tubes, 2 ml	48
Instruction manual	1

Specifications

Maximum volume	200 µl
Maximum speed for devices, including 200 µl liquid	400 x g
Maximum speed for devices, empty	13,000 x g

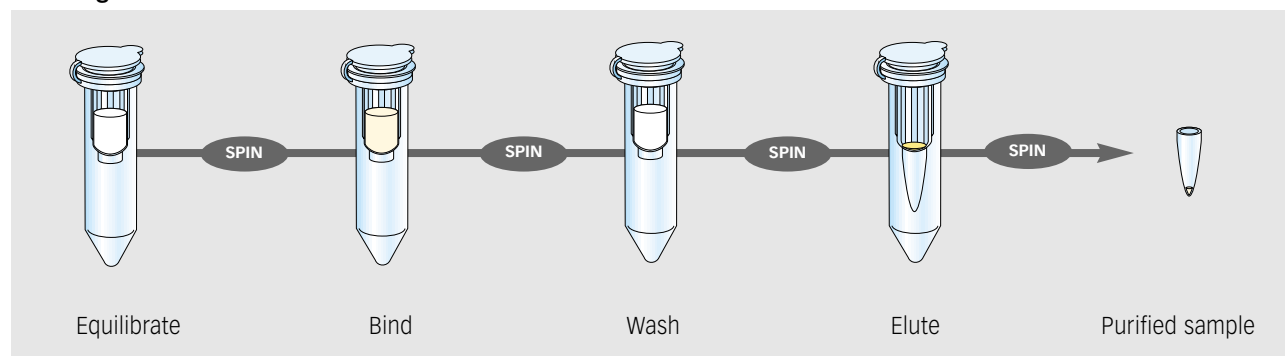
Dimensions

Column length	21 mm
Column width, top	13 mm
Total height with 2 ml collection tube	45 mm
Active membrane area	0.03 cm ²
Required rotor cavity diameter	11 mm

Materials of construction

Housing	Polypropylene
Membrane active groups	C18
Micro collection tubes 200 µl	Polypropylene
Collection tubes 2 ml	Polypropylene

Handling overview



Operating instructions

Additional equipment required:

1. Bench top microcentrifuge accepting 2 ml tubes and capable of spinning at 13,000 x g.
2. Pipettes for dispensing very small liquid volumes (0.1-10; 10-200 µl).

Protocol

Membrane equilibration and peptide binding

1. Wash the membrane with 200 µl 100% acetonitrile (ACN) and 0.1% trifluoroacetic acid (TFA) by centrifugation for 1 min at 400 x g. Repeat. Discard the flow through.
2. Equilibrate the membrane with 200 µl 0.1% TFA in water by centrifugation for 2 min at 400 x g. Repeat. Discard the flow through.
3. Load the peptides in 10-200 µl of 0.1% TFA or 0.1% formic acid (higher amounts of acid should not be a problem). Centrifuge for 1-2 min at 400 x g. Discard the flow through.

Note: Check the orientation of the device; see usage hints!

4. Wash with 200 µl of 0.1% TFA by centrifugation for 2 min at 400 x g. Repeat this wash step. Discard the flow through.
5. Without refilling the device centrifuge at 13,000 x g for 30 s to reduce the aqueous content. Discard the flow through.
6. Attach a micro collection tube to the bottom of the spin column and insert both into the 2 ml collection tube.
7. Elute bound peptides according to A or B:

Elution

A: For peptide samples from in-gel digest

Note: Work quickly when using low elution volumes to avoid evaporation of solvent.

1. Load 3 µl of a solution of α -cyano-4-hydroxycinnamic acid (HCCA, 10 mg/ml) in 50% ACN and 0.1% TFA onto the membrane.
2. Centrifuge for 30 s at 400 x g then 30 s at 13,000 x g.
3. Spot a portion or all of the eluate directly onto a target to give dried droplet preparations.

B: For higher molecular weight peptides and proteins

1. Load 3 µl of >50% ACN and 0.1% TFA onto the membrane, higher percentages of ACN may be used for higher molecular weight peptides and proteins e.g. 90% for the elution of myoglobin ~17kD.
2. Centrifuge for 30 s at 400 x g then 30 s at 13,000 x g.
3. Mix 1:1 with HCCA, 10 mg/ml in 50% ACN and 0.1% TFA and spot a portion or all of the eluate directly onto a target to give dried droplet preparations.

Note: the eluate from either method can be spotted onto a thin layer of HCCA, which can be produced by spotting 0.2 µl of a saturated HCCA solution in acetone onto a polished steel target. This results in nucleation of smaller, more even crystals.

Usage hints

- If preferred, 1.5 ml tubes can be used (not supplied)
- Orientate the spin device the same way for all centrifugation steps, e.g align the hinge of the cap towards the centre of the rotor.
- For small sample volumes, yields may be improved by loading directly onto the membrane (care must be taken not to puncture the membrane).
- Indicated RCFs are calculated at the bottom of the 2-ml collection tubes.

Ordering Information

Cat Number	Vivascience Kits	Spin Columns	Cat Number	Vivapure Maxi Spin Columns	Spin Columns	Centrifuge Tubes	
VS-SPO8HAR	Vivapure Anti-HSA Kit	12	VS-IX20CH08	Metal Chelate Maxi	8	16	
VS-PC01EPPC	Epoxy Protein Coupling Kit	12	VS-IX20CH08	Vivapure IEX C Maxi H	8	16	
Cat Number	Vivapure Mini Spin Columns	Spin Columns	Centrifuge Tubes	Cat Number	Vivapure Mega Spin Columns	Spin Columns	Centrifuge Tubes
VS-PA01PA24	Protein A Mini	24	24	VS-IX20DH08	Vivapure IEX D Maxi H	8	16
VS-MC01MC12	Metal Chelate Mini	12	12	VS-IX20QH08	Vivapure IEX Q Maxi H	8	16
VS-IX01ST16	Vivapure IEX Mini H Starter Kit (4 of each ion exchange class)	16	32	VS-IX20SH08	Vivapure IEX S Maxi H	8	16
VS-IX01CH24	Vivapure IEX C Mini H	24	48	VS-IX75QH02	Metal Chelate Mega	2	2
VS-IX01DH24	Vivapure IEX D Mini H	24	48	VS-IX75QH02	Vivapure IEX Q Mega H	2	2
VS-IX01QH24	Vivapure IEX Q Mini H	24	48	VS-IX75DH02	Vivapure IEX D Mega H	2	2
VS-IX01SH24	Vivapure IEX S Mini H	24	48	VS-IX75SH02	Vivapure IEX S Mega H	2	2
				VS-IX75CH02	Vivapure IEX C Mega H	2	2

Centrifugal ultrafiltration products

Product	Sample volume	Mode	Membranes available
Vivaspin 500	100 µl - 600 µl	Centrifugal	Polyethersulfone
Vivaspin 2	0.4 ml - 2 ml	Centrifugal	Polyethersulfone, Cellulose Triacetate, Regenerated Cellulose, Hydrosart
Centrisart	0.5 ml - 2.5 ml	Centrifugal	Polyethersulfone
Vivaspin 4	1 ml - 4 ml	Centrifugal	Polyethersulfone
Vivaspin 6	2 ml - 6 ml	Centrifugal	Polyethersulfone
Vivaspin 15	2 ml - 15 ml	Centrifugal	Polyethersulfone
Vivaspin 15R	2 ml - 15 ml	Centrifugal	Hydrosart
Vivaspin 20	5 ml - 20 ml	Centrifugal / Gas pressure	Polyethersulfone

For more information on related products, please refer to the:

- Vivascience Ultrafiltration Catalog - Vivaspin
- Vivapure® IEX brochure for kits and devices for protein purification
- Vivapure® Metal Chelate Mini spin columns
- Vivapure® Protein A Mini spin column brochure
- Vivapure® Epoxy Protein Coupling kit brochure

For current information and application notes, please visit us at www.vivascience.com



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