

Your Source for Clinical & Biological Concentrators
Call us at 800-456-4633

Vivafree™ 500 and Vivafree™ 2

Rapid separation of free drugs and hormones



Vivafree™ 2

Vivafree™ centrifugal filters offer a fast, accurate solution for separation of free drugs and hormones from those bound to serum or plasma proteins. The devices are useful for preparing samples for therapeutic drug monitoring, new drug binding studies and before mass spectrometry. Vivafree™ filters have been used for separating free hormones such as testosterone and insulin as well as drugs such as phenytoin, valproic acid and antibiotics. They are equipped with the patented regenerated cellulose Hydrosart® membrane which is designed to minimize binding of any microsolute. Separations can be performed as quickly as 20 minutes with high recoveries and excellent reproducibility. Vivafree™ filters are single use devices intended for in vitro diagnostic (IVD) applications.

Vivafree™ Applications

- Separation of free hormones (testosterone, insulin, cortisol).
- Sample preparation for therapeutic drug monitoring (phenytoin, valproic acid, antibiotics, immunosuppressants).
- Removal of proteins from samples before mass spectrometry.
- Sample preparation for drug binding studies.

Features	Benefits
Low binding membrane	High recoveries of samples
Centrifugal separation	Much faster than equilibrium dialysis (30 minutes vs 6-12 hours)

Technical Specifications

Concentrator Capacity	Vivafree™ 500	Vivafree™ 2
Total Sample	0.5 ml	2 ml
Dimensions		
Total Length (Filtration)	45 mm	125 mm
Total Length (Back-spin)	47.5 mm	115 mm
Width	12.4 mm	16 mm
Active membrane area	0.32 cm ²	0.95 cm ²
Hold-up volume (membrane and support)	<5 µl	10 µl
Dead stop volume		
Fixed angle rotor	5 µl (40° rotor)	55 µl (25° rotor)
Swing out rotor	No dead stop	No dead stop

Materials of Construction

Body	Polycarb.	Polycarb.
Filtrate vessel	Polyprop.	Polyprop.
Back spin vial	Polyprop.	Polyprop.
Filtration cap	N/A	Polyprop.
Membrane*	HY, CTA	HY, CTA
O-ring	Silicone	Silicone

Polycarb. = Polycarbonate, Polyprop. = Polypropylene
*HY = Hydrosart® (30,000 MWCO)
CTA = Cellulose Triacetate (125,000 MWCO)

Equipment Required

Centrifuge	Fixed angle or swing out*	
Rotor type	Fixed angle or swing out*	
Rotor cavity	To fit 1.5 l 2.2 ml (11 mm) conical bottom tubes	To fit 15ml (17 mm) conical bottom tubes 95 mm depth
Maximum Speed		
30,000 MWCO	5,000 g	5,000 g
125,000 MWCO	2,500 g	2,500 g

*Filtration rates in swing out rotors are typically 2-3 times slower.

Performance Characteristics (All data from fixed angle rotors)

Device Type	MWCO	Sample (all from serum)	Initial Volume	Filtrate Volume	Time	Temp.	Centrifugal Force (xg)
Vivafree™ 500	125,000	Free Insulin	500 µl	150 µl	30 min.	37° C	2,000
Vivafree™ 500	30,000	Free Piperacillin	500 µl	100 µl	30 min.	25° C	2,500
Vivafree™ 500	30,000	Free Tazobactam	500 µl	100 µl	30 min.	25° C	2,500
Vivafree™ 500	30,000	Free Linezolid	500 µl	90 µl	20 min.	37° C	1,000
Vivafree™ 500	30,000	Free Fluconazole	500 µl	90 µl	20 min.	37° C	1,000
Vivafree™ 2	30,000	Free Cortisol	500 µl	100 µl	20 min.	37° C	2,500
Vivafree™ 2	30,000	Free Phenytoin	1000 µl	200 µl	20 min.	25° C	1,500
Vivafree™ 2	30,000	Free Testosterone	300 µl	100 µl	20 min.	37° C	4,500
Vivafree™ 2	30,000	Free Testosterone*	1000 µl*	500 µl	60 min.	25° C	4,500

*This sample starts with 1000 µl of diluted serum. Free Testosterone analyzed by mass spectrometry.

Note: Filtration times may vary according to sample volume and quality. Lipemic samples may require longer spin times. Filtration rates in swing out rotors are typically 2-3 times slower.



Vivafree™ 500

Ordering Information

Molecular Weight Cutoff	Pack Size	Vivafree™ 500	Vivafree™ 2
30,000 MWCO	25	VFR01H21	VFR02H21
30,000 MWCO	100	VFR01H22	VFR02H22
30,000 MWCO	500	VFR01H23	VFR02H23
125,000 MWCO	25	VFR01H81	
125,000 MWCO	100	VFR01H82	
125,000 MWCO	500	VFR01H83	

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