ЦЕНТРИФУЖНЫЕ ФИЛЬТРЫ AMICON ULTRA-2

Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Саранск (8342)22-96-24
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35
Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Россия +7(495)268-04-70
Казахстан +7(7172)727-132
Киргизия +996(312)96-26-47

https://millipore.nt-rt.ru || mailto:mer@nt-rt.ru

Amicon® Ultra-2 Centrifugal Filter Devices

for volumes up to 2 mL

For research use only;
not for use in diagnostic procedures.

Introduction

Amicon® Ultra-2 centrifugal filter devices provide fast ultrafiltration, with the capability for high concentration factors and easy concentrate recovery from dilute and complex sample matrices. The vertical design and available membrane surface area provide fast sample processing, high sample recovery (typically greater than 90% of dilute starting solution), and the capability for 50-fold concentration. Typical processing time is 10 to 60 minutes depending on Molecular Weight Cut Off (MWCO). Solute polarization and subsequent fouling of the membrane are minimized by the vertical design, and a physical deadstop in the filter device prevents spinning to dryness and potential sample loss. Efficient recovery of the concentrated sample (retained species) is achieved by a convenient reverse spin step after collecting the filtrate. The device can be spun in a swinging bucket or fixed angle rotor. Amicon® Ultra-2 devices are supplied non-sterile and are for single use only.

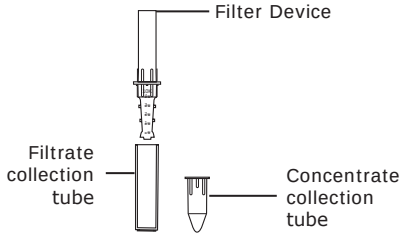
The Amicon® Ultra-2 product line includes 5 different cutoffs (Molecular Weight Cut Off, MWCO). These devices are for research use only and not for use in diagnostic procedures.

- Amicon® Ultra 3K device — 3,000 MWCO
- Amicon® Ultra 10K device — 10,000 MWCO
- Amicon® Ultra 30K device — 30,000 MWCO
- Amicon® Ultra 50K device — 50,000 MWCO
- Amicon® Ultra 100K device — 100,000 MWCO

Applications

- Concentration of biological samples containing antigens, antibodies, enzymes, nucleic acids (DNA/RNA samples, either single- or double-stranded), microorganisms, column eluates, and purified samples
- Purification of macromolecular components found in tissue culture extracts and cell lysates, removal of primer, linkers, or molecular labels from a reaction mix, and protein removal prior to HPLC
- Desalting, buffer exchange, or diafiltration

Materials Supplied



The Amicon® Ultra-2 device is supplied with two tubes. During operation, one tube is used to collect filtrate; the other to cap the device during concentration and subsequently to recover the concentrated sample.

Required Equipment

Centrifuge with swinging bucket or fixed angle rotor with wells/carriers that can accommodate 17 mm × 100 mm tubes (same well/carrier size as for Amicon® Ultra-4 devices and the former Centricon® device).

CAUTION: To avoid damage to the device during centrifugation, make sure it is properly assembled and seated at the bottom of the rotor. The rim of the concentrate collection tube should be inside the rotor well. Check clearance before spinning.

Suitability

Preliminary recovery and retention studies are suggested to ensure suitability for intended use. See the "How to Quantify Recoveries" section.

Device Storage

Store at room temperature.

Prerinsing

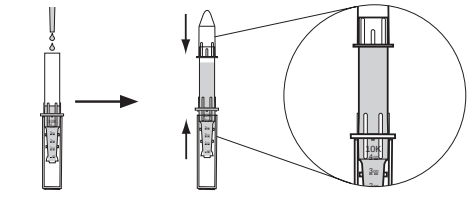
The ultrafiltration membranes in Amicon® Ultra-2 devices contain trace amounts of glycerine. If this material interferes with analysis, pre-rinse the device with buffer or Milli-Q® water. If interference continues, rinse with 0.1 N NaOH followed by a second spin of buffer or Milli-Q® water.

CAUTION: Do not allow the membrane in Amicon® Ultra filter devices to dry out once wet. If you are not using the device immediately after pre-rinsing, leave fluid on the membrane until the device is used.

How to Use Amicon® Ultra-2 Centrifugal Filter Devices

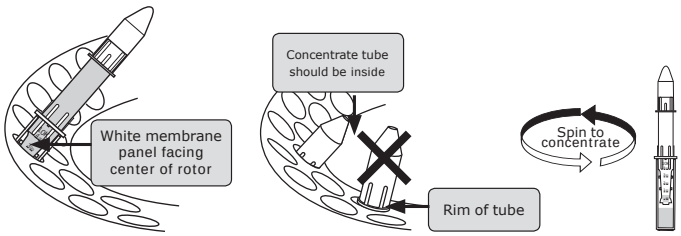
1. Insert the Amicon® Ultra-2 device into the filtrate collection tube, making sure that the device is fully seated in the tube.
2. Add up to 2 mL of sample to the device and cover with concentrate collection tube. Push the tube firmly onto the device.

   WARNING: Failure to fully seat the device in the filtrate collection tube and push the concentrate collection tube firmly onto the device may result in the device breaking during centrifugation. See figure below.



Add sample — Make sure both tubes are **fully seated** onto device

3. Place filter device into the centrifuge rotor with one membrane panel facing the center of the rotor (one panel facing up and the other panel facing down). Make sure the device is seated on the bottom of the rotor well and that the rim of the concentrate collection tube is completely inside the well. See figures below. Counterbalance with a similar device.



Orient device correctly in rotor — Seat device fully in well

4. Spin for approximately 10–60 minutes depending on the MWCO of the device used:

   4,000 × g maximum when using a swinging bucket rotor

   7,500 × g maximum when using a fixed angle rotor

   NOTE: When spinning viscous solutions such as undiluted serum or plasma, do not exceed 5,400 x g.

   Refer to Figures 1 and 2 and Tables 2 and 3 for typical spin times.

5. Remove the assembled device from the centrifuge and separate the Amicon® Ultra filter device from the filtrate collection tube.
6. To recover the concentrated solute, invert the Amicon® Ultra filter device and concentrate collection tube. Place in centrifuge and counterbalance with a similar device. Spin for 2 minutes at 1,000 × g to transfer the concentrated sample from the device to the tube.

   NOTE: For optimal recovery, perform the reverse spin immediately.

Chemical Compatibility

Amicon® Ultra centrifugal devices are intended for use with biological fluids and aqueous solutions. Before use, check the sample for chemical compatibility with the device.

Table 6. Chemical Compatibility of Amicon® Ultra Filter Devices.

Acids	Concentration		Concentration
Acetic acid	≤ 50%*	Phosphoric acid	≤ 30%
Formic acid	≤ 5%*	Sulfamic acid	≤ 3%
Hydrochloric acid	≤ 1.0 M	Sulfuric acid	≤ 3%
Lactic acid	≤ 50%	Trichloroacetic acid (TCA)	≤ 10%*
Nitric acid	≤ 10%	Trifluoroacetic acid (TFA)	≤ 30%*
Alkalis			
Ammonium hydroxide	≤ 10%	Sodium hydroxide	≤ 0.5 M
Alcohols			
n-Butanol	≤ 70%	Isopropanol	≤ 70%
Ethanol	≤ 70%	Methanol	≤ 60%
Detergents			
Alconox® detergent	≤ 1%	Sodium dodecyl sulfate (SDS)	≤ 0.1%
CHAPS detergent	≤ 0.1%	Tergazyme® detergent	≤ 1%
Lubrol® PX detergent	≤ 0.1%	Triton® X-100 surfactant	≤ 0.1%
Nonidet™ P-40 surfactant	≤ 2%	Tween® 20 surfactant	≤ 0.1%
Sodium deoxycholate	≤ 5%		
Organic solvents			
Acetone	Not recommended	Ethyl acetate	Not recommended
Acetonitrile	≤ 20%	Formaldehyde	≤ 5%
Benzene	Not recommended	Pyridine	Not recommended
Carbon tetrachloride	Not recommended	Tetrahydrofuran	Not recommended
Chloroform	Not recommended	Toluene	Not recommended
Dimethyl sulfoxide (DMSO)	≤ 5%*		
Miscellaneous			
Ammonium sulfate	Saturated	Phenol	≤ 1%
Diethyl pyrocarbonate	≤ 0.2%	Phosphate buffer (pH 8.2)	≤ 1 M
Dithiothreitol (DTT)	≤ 0.1 M	Polyethylene glycol	≤ 10%
Glycerine	≤ 70%	Sodium carbonate	≤ 20%
Guanidine HCl	≤ 6 M	Tris buffer (pH 8.2)	≤ 1 M
Imidazole	≤ 100 mM	Urea	≤ 8 M
Mercaptoethanol	≤ 0.1 M		

* Contact with this chemical may cause materials to leach out of the component parts. Solvent blanks are recommended to determine whether leachables represent potential assay interferences.

Specifications

Maximum initial sample volume 2.0 mL

Typical final concentrate volume 30–70 µL depending on MWCO

Maximum relative centrifugal force

Swinging bucket rotor: 4,000 × g for concentration spin, 1,000 × g for recovery spin

Fixed angle rotor: 7,500 × g for concentration spin, 1,000 × g for recovery spin

NOTE: When spinning viscous solutions such as undiluted serum or plasma, do not exceed 5,400 x g.

Active membrane area 1 cm^2

Hold-up volume < 5 µL

Dimensions

Filter device and tube

Length (concentration mode; device in filtrate tube): 119.7 mm (4.71 in.)

Length (recovery spin; device upside down in concentrate tube): 95.3 mm (3.75 in.)

Filter device	Diameter:	15.9 mm (0.63 in.)	Length:	70.7 mm (2.78 in.)
Filtrate tube	Diameter:	13.8 mm (0.54 in.)	Length:	52.9 mm (2.08 in.)
Concentrate tube	Diameter:	13.7 mm (0.54 in.)	Length:	34.5 mm (1.36 in.)

Materials of Construction

Filter device	Copolymer styrene/butadiene
Membrane	Ultracel® low-binding regenerated cellulose
Collection tubes	Polypropylene

Product Ordering Information

This section lists the catalogue numbers for Amicon® Ultra Ultrafiltration Devices.

MWCO	Qty / pk	Amicon® Ultra-0.5 device	Amicon® Ultra-2 device	Amicon® Ultra-4 device	Amicon® Ultra-15 device
3K	8	UFC500308	UFC200324	UFC800308	UFC900308
	24	UFC500324		UFC800324	UFC900324
	96	UFC500396		UFC800396	UFC900396
	500	UFC5003BK			
10K	8	UFC501008	UFC201024	UFC801008	UFC901008
	24	UFC501024		UFC801024	UFC901024
	96	UFC501096		UFC801096	UFC901096
	500	UFC5010BK			
10K IVD*	8			UFC801008D	UFC901008D
	24			UFC801024D	UFC901024D
	96			UFC801096D	UFC901096D
30K	8	UFC503008	UFC203024	UFC803008	UFC903008
	24	UFC503024		UFC803024	UFC903024
	96	UFC503096		UFC803096	UFC903096
	500	UFC5030BK			
50K	8	UFC505008	UFC205024	UFC805008	UFC905008
	24	UFC505024		UFC805024	UFC905024
	96	UFC505096		UFC805096	UFC905096
	500	UFC5050BK			
100K	8	UFC510008	UFC210024	UFC810008	UFC910008
	24	UFC510024		UFC810024	UFC910024
	96	UFC510096		UFC810096	UFC910096
	500	UFC5100BK			

* Amicon® Ultra-4 and -15 10K devices are for in vitro diagnostic (IVD) use. All other devices are for research use only.

Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Саранск (8342)22-96-24
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35
Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Россия +7(495)268-04-70
Казахстан +7(7172)727-132
Киргизия +996(312)96-26-47

https://millipore.nt-rt.ru || mailto:mer@nt-rt.ru