

Dialysis or diafiltration?


D-Tube™ dialyzers, Amicon® Ultra, and Amicon® Pro filters give **YOU** the choice.

Each protein preparation is unique. Give it the special treatment it deserves with a perfectly designed device for buffer exchange, desalting, and removing solutes like urea and detergents. Select between fast and gentle dialysis using D-Tube™ dialyzers, diafiltration using the faster Amicon® Ultra centrifugal filters, or maximize protein activity with gentle, single spin diafiltration using the Amicon® Pro filter.

What's the difference?


Dialysis is the traditional method for desalting (removing microsolute) or buffer/solvent exchange, using osmotic pressure to drive solutes across a membrane.

Diafiltration, or ultrafiltration, achieves desalting or buffer exchange through the use of centrifugal force or other external pressure to drive small microsolute through a porous membrane. The membrane does not allow macrosolute (larger than the pore size) to pass through.




D-Tube™ dialyzers enable you to:

Complete dialysis in just 2–5 hours and prevent precipitation or over-concentration of sensitive samples.



Amicon® Ultra centrifugal filters enable you to:

Rapidly desalt or exchange buffers without diluting your sample—just concentrate the sample, discard filtrate, and reconstitute the concentrate with desired solvent.



Amicon® Pro device offers:

Ground-breaking, gentle, single-spin diafiltration for simultaneous buffer exchange with concentration.

Ask your sample what it needs.

Based on your sample preparation needs, use the chart below to determine whether dialysis or diafiltration is the best solution.

How to choose D-Tube™ dialyzers, Amicon® Ultra filters, and Amicon® Pro filters for dialysis & diafiltration

Need	D-Tube™ Dialyzer	Amicon® Ultra	Amicon® Pro
Faster access to sample		X	X
Sensitive samples or samples which may precipitate at higher concentrations	X		X
Robust samples able to be concentrated		X	X
No concentration needed	X		
Concentration needed		X	X
Limited amounts of exchange solvent		X	X
Sample needs to be kept cold	Cold temperature reduces speed	Minimal effect of cold temperature on speed	Minimal effect of cold temperature on speed

Choose an Amicon® Ultra filter:

Simply use the tables below to first identify the best Molecular Weight Cut-Off (MWCO) for your sample and then select the filter that best suits your application based on starting and ideal final volume.

Proteins	Nanoparticles	Single- and Double-Stranded Nucleic Acids	MWCO
6 < MW < 20 k	1.5 nm < dia < 3 nm		3,000
20 < MW < 60 k	3 nm < dia < 5 nm		10,000
60 < MW < 100 k	5 nm < dia < 7 nm	137–1159 bp	30,000
100 < MW < 200 k	7 nm < dia < 10 nm		50,000
200 k < MW	10 nm < dia		100,000

Amicon® Ultra Centrifugal Filters

Product	Amicon® Ultra-0.5	Amicon® Ultra-2	Amicon® Ultra-4	Amicon® Ultra-15
Maximum initial sample volume (mL)	0.5	2	4	15
Final concentrate (retentate) volume (µL)	15–20	15–70	30–70	150–300
MWCO	Qty/Pk			
3,000	8	UFC500308		UFC800308
MWCO	24	UFC500324	UFC200324	UFC800324
	96	UFC500396		UFC800396
	500	UFC5003BK		UFC900396
10,000	8	UFC501008		UFC801008
MWCO	24	UFC501024	UFC201024	UFC801024
	96	UFC501096		UFC801096
	500	UFC5010BK		UFC901096
30,000	8	UFC503008		UFC803008
MWCO	24	UFC503024	UFC203024	UFC803024
	96	UFC503096		UFC803096
	500	UFC5030BK		UFC903096
50,000	8	UFC505008		UFC805008
MWCO	24	UFC505024	UFC205024	UFC805024
	96	UFC505096		UFC805096
	500	UFC5050BK		UFC905096
100,000	8	UFC510008		UFC810008
MWCO	24	UFC510024	UFC210024	UFC810024
	96	UFC510096		UFC810096
	500	UFC5100BK		UFC910096

Amicon® Ultra filter selector tool

Find the right filter to prepare your sample—search with our online Amicon® Ultra Selector Tool.

Visit: www.merckmillipore.com/FastEasy



www.merckmillipore.com

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Choose a D-Tube™ dialyzer:

What is the starting volume of your solution? What is the molecular weight of your molecule of interest? Answer these questions, and you're ready to choose a D-Tube™ Dialyzer with the right molecular weight cut-off (MWCO)

Product	D-Tube™ Mini	D-Tube™ Midi	D-Tube™ Maxi	D-Tube™ Mega	D-Tube™ Mega	D-Tube™ Mega
Maximum initial sample volume	10 to 250 µL	50 to 800 µL	100 µL to 3 mL	3 to 10 mL	10 to 15 mL	15 to 20 mL
MWCO	Qty/Pk					
3,500	10		71506-3	71508-3	71739-3	71742-3
	50			71739-4	71742-4	71745-3
						71745-4
6,000–8,000	10	71504-3	71507-3	71509-3	71740-3	71743-3
	50				71740-4	71743-4
	1 plate of 96	71712-3				71746-3
12,000–14,000	10	71505-3		71510-3		
	1 plate of 96	71713-3				
Floating Rack						
	10	71512-3	71513-3	71514-3	71748-3	71748-3

Choose an Amicon® Pro device:

To choose the appropriate Amicon® Pro device, determine the molecular weight cut-off (MWCO) of your protein of interest.

Product	MWCO				
	3,000	10,000	30,000	50,000	100,000
Amicon® Pro Purification System 12/pk	ACS500312	ACS501012	ACS503012	ACS505012	ACS510012
Amicon® Pro Purification System 24/pk	ACS500324	ACS501024	ACS503024	ACS505024	ACS510024

To place an order or receive technical assistance

In Europe, please call Customer Service:

France: 0825 045 645

Germany: 069 86798021

Italy: 848 845 645

Spain: 901 516 645 Option 1

Switzerland: 0848 645 645

United Kingdom: 0870 900 4645

For other countries across Europe, please call: +44 (0) 115 943 0840

Or visit: www.merckmillipore.com/offices

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