Dialysis or diafiltration?
D-Tube™ dialyzers and Amicon® Ultra 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 the D-Tube™ Dialyzers or diafiltration using the faster Amicon® Ultra Centrifugal Filters.

What's the difference?

**Dialysis** is the traditional method for desalting (removing microsolutes) 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 microsolutes through a porous membrane. The membrane does not allow macrosolutes (larger than the pore size) to pass through.

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**D-Tube™ dialyzers enable you to:**

- Prevent precipitation or over-concentration of intractable or sensitive samples.
- Complete dialysis in just two to five hours, thanks to the D-Tube™ dialyzer's double membrane, which spreads the sample over a large surface area.
- Easily handle samples in a capped centrifuge tube format with dialysis membrane windows.
- Achieve >97% sample volume recovery from solution.

**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.
- Repeat "washing out" until solvent exchange or desalting is complete.
- Efficiently achieve salt (microsolute) transfer across the membrane, regardless of microsolute concentration or size as quick as 30 minutes.

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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-Tubes™ dialyzers vs. Amicon® Ultra filters for dialysis and diafiltration

<table>
<thead>
<tr>
<th>Need</th>
<th>D-Tube™</th>
<th>Amicon® Ultra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faster access to sample</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Sensitive samples or samples which may precipitate at higher concentrations</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Robust samples able to be concentrated</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>No concentration needed</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Concentration needed</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Limited amounts of exchange solvent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample needs to be kept cold</td>
<td>Cold temperature reduces speed</td>
<td>Minimal effect of cold temperature on speed</td>
</tr>
</tbody>
</table>
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 Amicon® filter that best suits your application based on starting and ideal final volume.

### Proteins
- 6 < MW < 20 k
  - MWCO: 3,000
  - MWCO: 10,000
- 20 < MW < 60 k
  - MWCO: 10,000
  - MWCO: 50,000
- 60 < MW < 100 k
  - MWCO: 30,000
- 100 < MW < 200 k
  - MWCO: 50,000
- 200 k < MW
  - MWCO: 100,000

### Nanoparticles
- 1.5 nm < dia < 3 nm
  - 100,000
- 3 nm < dia < 5 nm
- 5 nm < dia < 7 nm
- 7 nm < dia < 10 nm
- 10 nm < dia

### Single- and Double-Stranded Nucleic Acids
- 3,000: 137–1159 bp
- 10,000
- 30,000
- 50,000

### Amicon® Ultra Centrifugal Filters

<table>
<thead>
<tr>
<th>Product</th>
<th>Amicon® Ultra-0.5</th>
<th>Amicon® Ultra-2</th>
<th>Amicon® Ultra-4</th>
<th>Amicon® Ultra-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum initial sample volume (mL)</td>
<td>0.5</td>
<td>2</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Final concentrate (retentate) volume (µL)</td>
<td>15–20</td>
<td>15–70</td>
<td>30–70</td>
<td>150–300</td>
</tr>
<tr>
<td>MWCO</td>
<td>Qty/Pk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3,000 MWC</td>
<td>8</td>
<td>24</td>
<td>96</td>
<td>500</td>
</tr>
<tr>
<td>10,000 MWC</td>
<td>8</td>
<td>24</td>
<td>96</td>
<td>500</td>
</tr>
<tr>
<td>30,000 MWC</td>
<td>8</td>
<td>24</td>
<td>96</td>
<td>500</td>
</tr>
<tr>
<td>50,000 MWC</td>
<td>8</td>
<td>24</td>
<td>96</td>
<td>500</td>
</tr>
<tr>
<td>100,000 MWC</td>
<td>8</td>
<td>24</td>
<td>96</td>
<td>500</td>
</tr>
</tbody>
</table>

### 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).

<table>
<thead>
<tr>
<th>Product</th>
<th>D-Tube™ Mini</th>
<th>D-Tube™ Midi</th>
<th>D-Tube™ Maxi</th>
<th>D-Tube™ Mega</th>
<th>D-Tube™ Mega</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum initial sample volume</td>
<td>10 to 250 µL</td>
<td>50 to 800 µL</td>
<td>100 µL to 3 mL</td>
<td>3 to 10 mL</td>
<td>10 to 15 mL</td>
</tr>
<tr>
<td>MWCO</td>
<td>Qty/Pk</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3,500</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6,000–8,000</td>
<td>10</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12,000–14,000</td>
<td>10</td>
<td>1 plate of 96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floating Rack</td>
<td>10</td>
<td>71512-3</td>
<td>71513-3</td>
<td>71514-3</td>
<td>71748-3</td>
</tr>
</tbody>
</table>

To Place an Order or Receive Technical Assistance

In Europe, please call Customer Service:
- France: 0825 045 645
- Germany: 01805 045 645
- 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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Lit No. PR3888ENEU LS SBU-12-06314 4/2012. Printed in the USA.

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