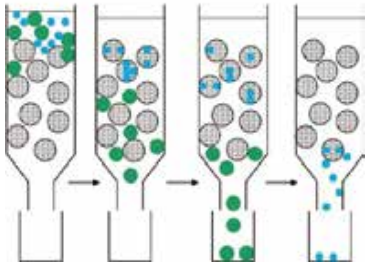
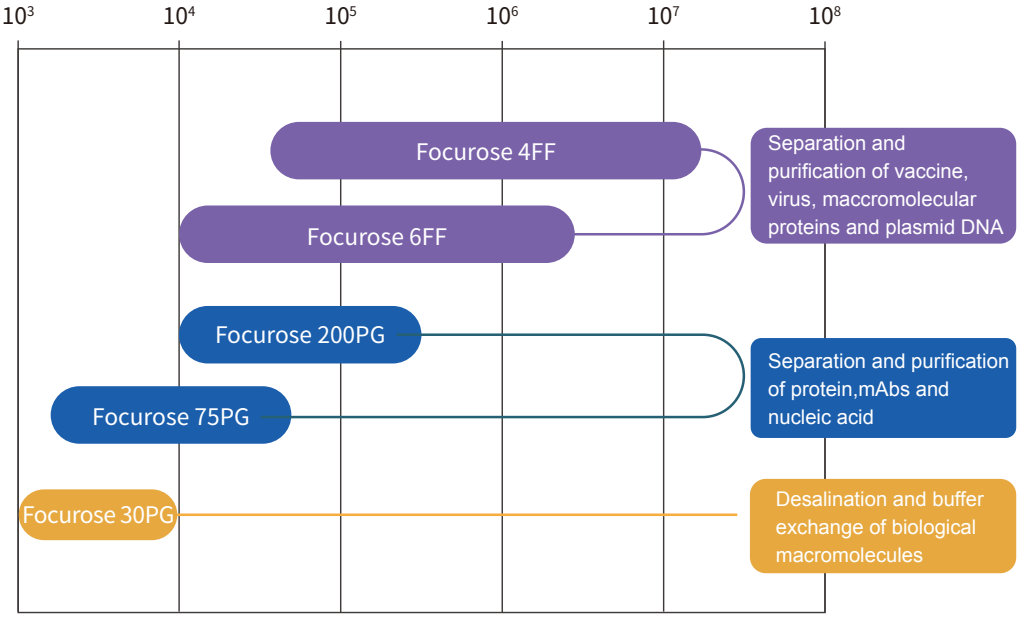
Size exclusion resins are based on the size of the target molecules, from the largest to the smallest peak in order to achieve the purpose of separation.



★ Size exclusion resins are often used in the subsequent purification stage with less impurities.
★ Size exclusion resins are used for the purification of smaller samples.
★ In group separation (such as desalination) can also be used in the coarse purification stage.
★ The addition of 150 mM NaCl to the buffer can effectively reduce the non-specific adsorption of the target protein.

Size exclusion resins graded separation range (globulin Da)



The process of graded separation by size exclusion resins

Selection of size exclusion resins

Select the appropriate resin according to the sample properties and the graded separation range of size exclusion resins

Loading column

- Column bed height control to 30-60cm
- Loading diameter to height ratio 1:15-1:100
- The filling should be uniform and appropriate density

Loading samples

- Sample flow rate should be slow, not too fast
- Sample volume affects the separation effect
- Group separation (such as desalination) can be on the sample 30%, component separation on the sample volume control below 10%, 5% or less is appropriate

Separation

- After the sample enters the column bed, the substances larger than the upper limit of resin rejection flow out of the column bed first
- In the range of resin resistance, according to the size of the molecules in descending order of flow

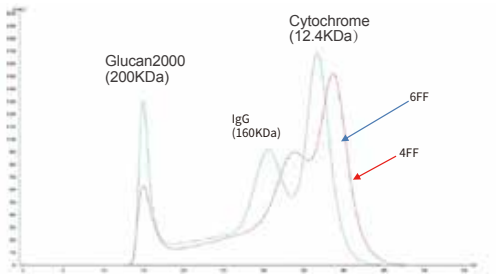
Size Exclusion Resins

Product number	Product name	Spec	Separation range (globulin)	Particle size range μm	Average particle size μm	Withstand pressure MPa	Flow rate cm/h	pH stability Long-term [short-term]	Application
HN030303005M	Focurose 4FF	5mL	6×10^4-2×10^7	45-165	90±5	⩽0.1	250	2-12 [2-14]	Isolation of biological macromolecules such as vaccines, viruses, etc.
HN030303025M		25mL							
HN030303100M		100mL							
HN030303500M		500mL							
HN030303001L		1L							
HN030303005L		5L							
HN030303020L		20L							
HN060307005M	Focurose 6FF	5mL	1×10^4-4×10^6	45-165	90±5	⩽0.1	300	2-12 [2-14]	Isolation of biological macromolecules such as plasmid DNA, viruses, vaccines, etc.
HN060307025M		25mL							
HN060307100M		100mL							
HN060307500M		500mL							
HN060307001L		1L							
HN060307005L		5L							
HN060307020L		20L							
HN120208025M	Focurose 30PG	25mL	⩽1×10^4	25-45	35±5	⩽0.3	90	3-12 [1-14]	Biomolecule desalination, peptide isolation
HN120208100M		100mL							
HN120208500M		500mL							
HN120208001L		1L							
HN120208005L		5L							
HN120208020L		20L							
HN120209005M	Focurose 75PG	5mL	3×10^3-7×10^4	25-45	35±5	⩽0.3	90	3-12 [1-14]	Isolation and purification of peptides and low molecular proteins
HN120209025M		25mL							
HN120209100M		100mL							
HN120209500M		500mL							
HN120209001L		1L							
HN120209005L		5L							
HN120209020L		20L							
HN120210005M	Focurose 200PG	5mL	1×10^4-6×10^5	25-45	35±5	⩽0.3	90	3-12 [1-14]	Isolation and purification of monoclonal antibodies and proteins
HN120210025M		25mL							
HN120210100M		100mL							
HN120210500M		500mL							
HN120210001L		1L							
HN120210005L		5L							
HN120210020L		20L							

Application Cases

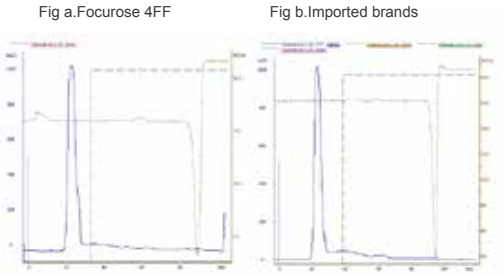
Focurose 4FF/6FF for the separation of substances with different molecular weights

Focurose 4FF and 6FF were compared using the same column volume and sample volume.The separation of IgG (160 KDa) and cytochrome C (12.4 KDa) was better with 6FF than 4FF.



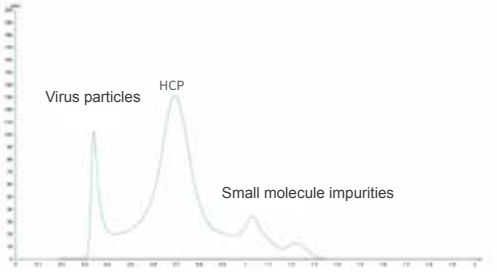
Comparison of Focurose 4FF purified influenza vaccine with imported brands

The purification profiles of Focurose 4FF and imported brand influenza vaccine were compared using the same column volume, sample volume and purification method.



Focurose 4FF purified rabies virus

The molecular weight of rabies virus was larger than that of HCP and impurities, and the peaks were preferential. The spectrum reflected that rabies virus was effectively separated from HCP and small molecule impurities.



Tips

★ The diameter-to-height ratio of the loaded column is 1:15 to 1:100, and the backpressure increases if the loading is too high.

★ The sample volume should be less than 10% of the column bed volume during chromatography, and try to control within 5%.

★ When using size exclusion resins, the molecular weights of the substances to be separated differ by a factor of 2 or more.

★ Minimize the viscosity of the sample when size exclusion resins is performed.

★ The presence of solids in the chromatographic sample should be avoided.