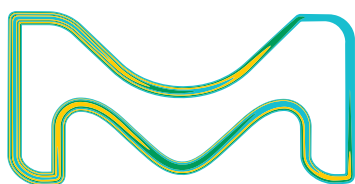


BIOshell™ U/HPLC Columns with Fused-Core® Technology

Faster Separation of Proteins,
Peptides, and Glycans



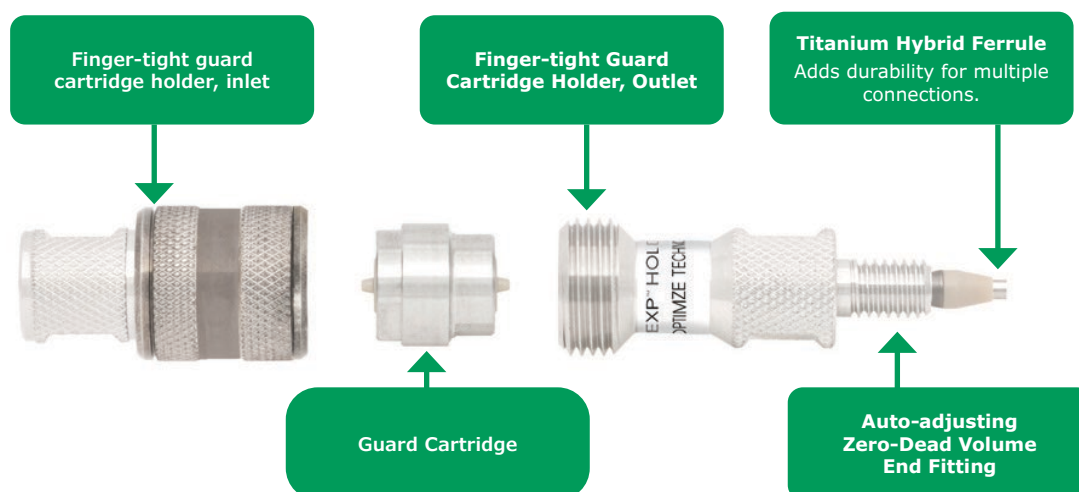
BIOshell™ U/HPLC Guard Columns

- Prevent strongly retained compounds from entering the column and leading to column fouling.
- Ultra-low to no dispersion, easy to install and operate, and can tolerate backpressures up to 1000 bar.
- Finger-tight, direct-connect units that auto-adjust to any column with a 10-32 inlet port.
- The guard cartridge can be removed from and exchanged for a new one without removing guard holder from the flow path.
- Guard columns available for all BIOshell™ analytical geometries (2.1, 3.0, and 4.6 mm I.D.,) and phase chemistries.

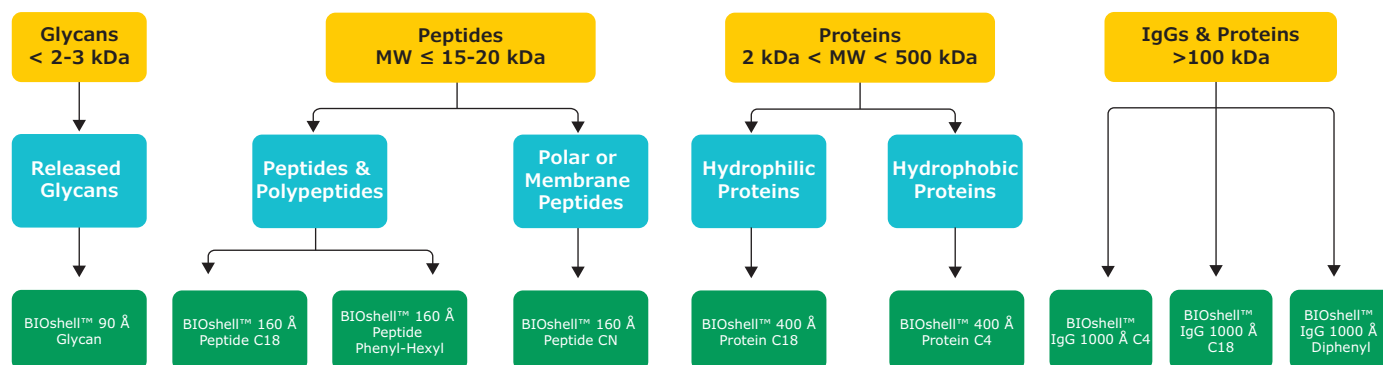
Did you know?

We have HPLC columns for all modes of chromatography for analyzing biomacromolecules.

Please visit [SigmaAldrich.com/bio-hplc](https://www.sigmaaldrich.com/bio-hplc) for a complete overview of the bio-HPLC portfolio and for technical literature pertaining to biomacromolecule separations.



Column Selection Guide for Biomolecule Separations



BIOshell™ IgG 1000 Å U/HPLC Columns

Dimensions Length (cm) x I.D. (mm)	C ₄	C ₁₈	Diphenyl
5 x 0.075	**	**	**
100 x 0.075	**	**	**
150 x 0.075	**	**	**
5 x 0.1	**	**	**
100 x 0.1	**	**	**
150 x 0.1	**	**	**
5 x 0.2	**	**	**
10 x 0.2	**	**	**
150 x 0.2	**	**	**
5 x 0.3	63336-U	581367-U	577436-U
10 x 0.3	**	**	**
15 x 0.3	63335-U	581366-U	577435-U
5 x 0.5	63338-U	581381-U	577438-U
10 x 0.5	**	**	**
15 x 0.5	63337-U	581380-U	577437-U
3 x 1.0	**	**	**
5 x 1.0	63340-U	581383-U	577440-U
7.5 x 1.0	**	**	**
10 x 1.0	**	**	**
15 x 1.0	63339-U	581382-U	577439-U
5 x 1.5	581385-U	**	577451-U
15 x 1.5	581384-U	**	577450-U
2 x 2.1	63281-U	**	**
3 x 2.1	63282-U	**	**
5 x 2.1	63283-U	581362-U	577419-U
7.5 x 2.1	63284-U	**	**
10 x 2.1	63288-U	582701-U	577420-U
15 x 2.1	63289-U	582703-U	577421-U
25 x 2.1	**	582704-U	577422-U
2 x 3.0	63306-U	**	**
3 x 3.0	63307-U	582705-U	577423-U
5 x 3.0	63308-U	582706-U	577424-U
7.5 x 3.0	63311-U	**	**
10 x 3.0	63313-U	582707-U	577425-U
15 x 3.0	63314-U	582708-U	577426-U
25 x 3.0	**	**	**
2 x 4.6	63322-U	**	**
3 x 4.6	63324-U	582709-U	577427-U
5 x 4.6	63325-U	582710-U	577428-U
7.5 x 4.6	63327-U	**	**
10 x 4.6	63328-U	582713-U	577429-U
15 x 4.6	63329-U	581348-U	577430-U
25 x 4.6	**	582715-U	577434-U
Guard Columns, Three Pack			
0.5 x 2.1	63291-U	581349-U	577431-U
0.5 x 3.0	63315-U	581360-U	577432-U
0.5 x 4.6	63334-U	581361-U	577433-U
Guard Column Holder:	66841-U		

For geometries marked **, please contact technical service for custom quote options.

Dimensions Length (cm) x I.D. (mm)	BIOshell™ Glycan
5 x 2.1	50991-U
10 x 2.1	50993-U
15 x 2.1	50994-U
5 x 4.6	50997-U
10 x 4.6	50998-U
15 x 4.6	50999-U
Guard Columns, Three Pack	
0.5 x 2.1	**
0.5 x 4.6	**
Guard Column Holder:	66841-U

BIOshell™ A400 Protein U/HPLC Columns

Dimensions Length (cm) x I.D. (mm)	C ₄	C ₁₈
5 x 0.075	**	**
100 x 0.075	**	**
150 x 0.075	**	**
5 x 0.1	**	**
100 x 0.1	**	**
150 x 0.1	**	**
5 x 0.2	**	**
10 x 0.2	**	**
150 x 0.2	67037-U	**
5 x 0.3	67038-U	67496-U
10 x 0.3	**	**
15 x 0.3	67039-U	**
5 x 0.5	**	**
10 x 0.5	**	**
15 x 0.5	67041-U	**
3 x 1.0	**	**
5 x 1.0	**	**
7.5 x 1.0	**	**
10 x 1.0	**	**
15 x 1.0	67045-U	**
2 x 2.1	**	67457-U
3 x 2.1	**	67458-U
5 x 2.1	66824-U	67459-U
7.5 x 2.1	**	67462-U
10 x 2.1	66825-U	67463-U
15 x 2.1	66826-U	67469-U
25 x 2.1	**	**
2 x 3.0	**	67471-U
3 x 3.0	**	67472-U
5 x 3.0	**	67473-U
7.5 x 3.0	**	67474-U
10 x 3.0	**	67475-U
15 x 3.0	**	67477-U
25 x 3.0	**	**
2 x 4.6	**	67478-U
3 x 4.6	**	67482-U
5 x 4.6	66827-U	67483-U
7.5 x 4.6	**	67485-U
10 x 4.6	66828-U	67487-U
15 x 4.6	66829-U	67488-U
25 x 4.6	**	**

Guard Columns, Three Pack		
0.5 x 2.1	66830-U	67505-U
0.5 x 3.0	**	67506-U
0.5 x 4.6	66831-U	67508-U
Guard Column Holder:	66841-U	

BIOshell™ A160 Peptide U/HPLC Columns

	160 Å, 2.0 µm		160 Å, 2.7 µm		160 Å, 5.0 µm	
Dimensions Length (cm) x I.D. (mm)	C18	C18	CN	Phenyl-Hexyl	C18	CN
5 x 0.075	**	**	**	**	**	**
100 x 0.075	**	**	**	**	**	**
150 x 0.075	**	**	**	**	**	**
5 x 0.1	**	**	**	**	**	**
100 x 0.1	**	**	**	**	**	**
150 x 0.1	**	**	**	**	**	**
5 x 0.2	**	**	**	**	**	**
10 x 0.2	**	**	**	**	**	**
150 x 0.2	**	**	**	**	**	**
5 x 0.3	**	**	67159-U	577546-U	**	**
10 x 0.3	**	**	**	**	**	**
15 x 0.3	**	67093-U	67160-U	577545-U	**	**
5 x 0.5	**	**	67161-U	577548-U	**	**
10 x 0.5	**	67096-U	**	**	**	**
15 x 0.5	**	67097-U	67163-U	577547-U	**	**
3 x 1.0	**	**	**	**	**	**
5 x 1.0	**	**	67164-U	577550-U	**	**
7.5 x 1.0	**	**	**	**	**	**
10 x 1.0	**	**	**	**	**	**
15 x 1.0	**	67099-U	67165-U	577549-U	**	**
5 x 1.5	67284-U	66923-U	**	**	**	**
15 x 1.5	67283-U	66922-U	**	**	**	**
2 x 2.1	67234-U	**	**	577523-U	**	**
3 x 2.1	67238-U	66901-U	66965-U	577524-U	67001-U	67061-U
5 x 2.1	67239-U	66902-U	66966-U	577525-U	67002-U	67062-U
7.5 x 2.1	67241-U	66903-U	66967-U	577526-U	67003-U	67063-U
10 x 2.1	67242-U	66904-U	66968-U	577527-U	67004-U	67064-U
15 x 2.1	67243-U	66905-U	66969-U	577528-U	67006-U	67065-U
25 x 2.1	**	**	**	**	**	**
2 x 3.0	67257-U	**	**	577529-U	**	**
3 x 3.0	67263-U	66906-U	66970-U	577530-U	67007-U	67066-U
5 x 3.0	67267-U	66907-U	66971-U	577531-U	67008-U	67067-U
7.5 x 3.0	67274-U	**	**	577532-U	**	**
10 x 3.0	67275-U	66908-U	66972-U	577533-U	67011-U	67068-U
15 x 3.0	67277-U	66909-U	66973-U	577534-U	67012-U	67069-U
25 x 3.0	**	**	**	**	**	**
2 x 4.6	**	**	**	577535-U	**	**
3 x 4.6	**	**	**	577536-U	**	**
5 x 4.6	**	66913-U	66974-U	577537-U	67013-U	67071-U
7.5 x 4.6	**	**	**	577538-U	**	**
10 x 4.6	**	66915-U	66975-U	577539-U	67014-U	67080-U
15 x 4.6	**	**	66976-U	577540-U	67015-U	67081-U
25 x 4.6	**	**	**	577544-U	**	**
Guard Columns, Three Pack						
0.5 x 2.1	67281-U	66918-U	66977-U	577541-U	67016-U	67082-U
0.5 x 3.0	67282-U	66919-U	66978-U	577542-U	67017-U	67083-U
0.5 x 4.6	**	66921-U	66979-U	577543-U	67018-U	67084-U
Guard Column Holder:	66841-U					

To place an order or receive technical assistance

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