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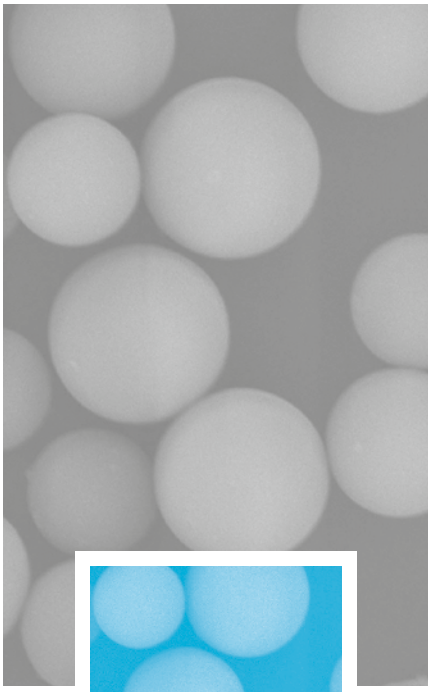
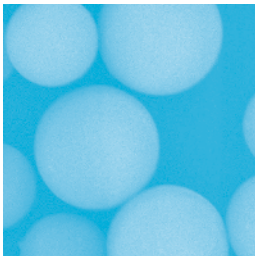
VDSpher® OptiBio

Your column brand for excellent biochemical separations





VDSpher® OptiBio – your column brand for excellent biochemical separations

VDSpher® OptiBio phases have been specially developed for biochemical analysis such as protein and peptide separation.

Based on spherical, porous and ultra-pure silica (VDSpher® OptiBio > 99.95% Si, VDSpher® OptiBio PUR > 99.995% Si) with narrow particle and pore size distributions, various VDSpher® OptiBio reversed phases with C18, C8 and C4 bonding have been created that deliver high plate numbers and sharp peaks.

A total of fifteen VDSpher® OptiBio phases with various pore and particle sizes are available, suitable for a broad range of applications. For possible combinations of modifications and particle sizes, please refer to Table 1.

Table 1: VDSpher® OptiBio phases

	Pore size [Å]	Particle sizes [µm]
OptiBio 300 C18-V	300	5/10
OptiBio 300 C8-V	300	5/10
OptiBio 300 C4-V	300	5/10
OptiBio PUR 300 C18-E	300	5/10
OptiBio PUR 300 C18-SE	300	5/10
OptiBio PUR 300 C18-V-E	300	5/10
OptiBio PUR 300 C18-TSE	300	5/10
OptiBio PUR 300 C18-PSE	300	5
OptiBio PUR 200 C8-V-E	200	5/10
OptiBio PUR 300 C8-E	300	5/10
OptiBio PUR 300 C8-SE	300	5/10
OptiBio PUR 300 C8-PSE	300	5
OptiBio PUR 300 C4-E	300	3/5/10
OptiBio PUR 300 C4-SE	300	5/10
OptiBio PUR 300 C4-PSE	300	5

This product palette is ideally suited for various sizes of analytes. A range of molar masses for different shapes can be covered, depending on the pore size of the modified silica (see Table 2).

Table 2: Recommended analyte sizes for VDSpher® OptiBio phases

Pore size [Å]	Analyte size (spherical) [g/mol]	Analyte size (cylindrical) [g/mol]
200	250 - 6500	100 - 2800
300	800 - 21500	350 - 9500

Examples of typical analytes include:

- Antibodies
- Biomolecules
- Oligonucleotides
- Peptides
- Proteins

All VDSpher® OptiBio phases are stable across a broad range of pH and can be used up to temperatures of 65 °C without problem. Eluents with large proportions of water can be used for all phases. For detailed specifications, please refer to Table 3:

Table 3: Specifications for VDSpher® OptiBio phases

	Endcapping	Surface area [m^2/g]	pH-stability	Max. H_2O content [%]	USP
OptiBio 300 C18-V	–	90	2 - 7.5	100	L1
OptiBio 300 C8-V	–	90	2 - 7.5	100	L7
OptiBio 300 C4-V	–	90	2 - 7.5	100	L26
OptiBio PUR 300 C18-E	✔	90	2 - 7.5	90	L1
OptiBio PUR 300 C18-SE	✔	90	2 - 9	95	L1
OptiBio PUR 300 C18-V-E	✔	90	2 - 7.5	100	L1
OptiBio PUR 300 C18-TSE	✔	90	2 - 9	100	L1
OptiBio PUR 300 C18-PSE	✔	90	2 - 8	100	L1
OptiBio PUR 200 C8-V-E	✔	130	2 - 7.5	100	L7
OptiBio PUR 300 C8-E	✔	90	2 - 7.5	90	L7
OptiBio PUR 300 C8-SE	✔	90	2 - 9	95	L7
OptiBio PUR 300 C8-PSE	✔	90	2 - 8	100	L7
OptiBio PUR 300 C4-E	✔	90	2 - 7.5	90	L26
OptiBio PUR 300 C4-SE	✔	90	2 - 9	95	L26
OptiBio PUR 300 C4-PSE	✔	90	2 - 8	100	L26

The various modifications differ in terms of hydrophobicity, as shown in Figure 1 using the example of the C8 phases. The C8-V-E and C8-V modifications are highly hydrophobic, while C8-SE and C8-E have medium hydrophobicity and C8-PSE is hydrophilic.

Figure 1: Hydrophobicity of VDSpher® OptiBio (300 Å) C8 modifications

VDSpher® OptiBio columns come in a range of dimensions from 1 - 63 mm inside diameter and 30 - 300 mm length. Guard cartridges are likewise available. For a more detailed overview, please refer to our price list.

On request, VDSpher® OptiBio phases can also be packed into biocompatible PEEK columns with inside diameters of 2.1 mm or 4.0 mm or in PLS (PEEK-lined stainless steel) columns with inside diameters of 2.1 or 4.6 mm.

Test VDSpher® OptiBio and discover the advantages of these high-performance separation phases, which are also cost-effective alternatives to many Vydac® columns.

Your distributor

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