

# Shodex® Columns

## Aqueous Size Exclusion

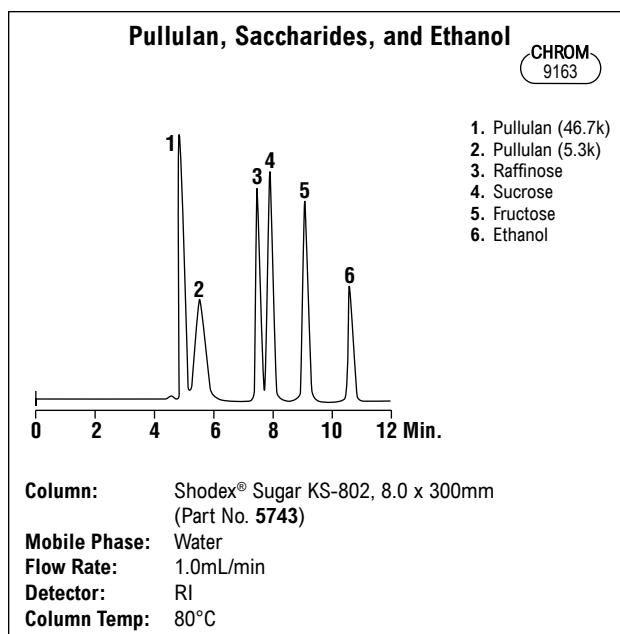
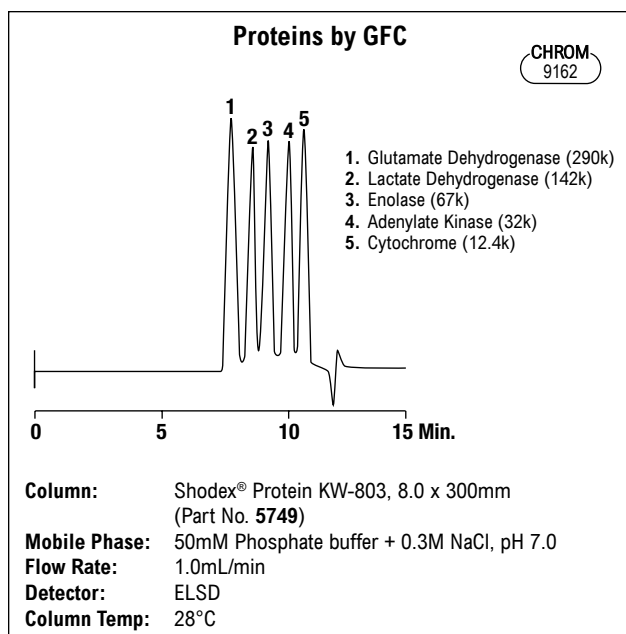
- High efficiency and high mass recovery
- Separate biopolymers by their effective size in solution
- Stable sugar GFC columns

Shodex® Ohpak and Sugar columns are designed for high-resolution separations of water-soluble compounds such as organics, inorganics, oligomers, and polymers. Three different gel filtration size exclusion materials are available.

Shodex® Sugar columns use a sulfonated gel with a sodium counter ion for separation of mono, di, oligo, and polysaccharides, starches, and celluloses.

Aqueous Size Exclusion Columns		
Packing Series	Description	Applications
<b>Ohpak SB-800</b>	Polyhydroxymethacrylate	General purpose GFC of water-soluble polymers, proteins, and enzymes
<b>Protein KW-800</b>	Porous Silica Gel	GFC of proteins, glycoproteins, and peptides
<b>Sugar KS-800</b>	Sulfonated PS Gel (Na <sup>+</sup> counter ion)	Separation of mono, di, oligo, and polysaccharides, starches, and celluloses

hplc columns | small and large molecule



### Shodex® Size Exclusion HPLC Columns

	Particle Size	Format	Packing	MW Range	i.d. x Length	Part No.
<i>Ohpak</i>	8µm	Analytical	SB-802 HQ	50–4000	8.0 x 300mm	<b>5730</b>
	6µm	Analytical	SB-802.5 HQ	50–10,000	8.0 x 300mm	<b>5731</b>
	6µm	Analytical	SB-803 HQ	50–100,000	8.0 x 300mm	<b>5732</b>
	10µm	Analytical	SB-804 HQ	100–1,000,000	8.0 x 300mm	<b>5733</b>
	13µm	Analytical	SB-805 HQ	500–4,000,000	8.0 x 300mm	<b>5734</b>
<i>Protein</i>	13µm	Analytical	SB-806M HQ	100–20,000,000	8.0 x 300mm	<b>5736</b>
	5µm	Analytical	KW-802.5	50–50,000	8.0 x 300mm	<b>5748</b>
	5µm	Analytical	KW-803	50–150,000	8.0 x 300mm	<b>5749</b>
	7µm	Analytical	KW-804	100–600,000	8.0 x 300mm	<b>5750</b>
<i>Sugar</i>	5µm	Analytical	KS-801	50–1000	8.0 x 300mm	<b>5742</b>
	5µm	Analytical	KS-802	50–10,000	8.0 x 300mm	<b>5743</b>

### related product

Doing carbohydrate analysis?

ELSD offers greater sensitivity than RI. See pages 5–11.



### related product

Looking for column heaters?

See pages 16 and 17.

# Shodex® ODP2 HP Columns

## High-Efficiency Polymer-Based Reversed-Phase Column

- Column efficiency is comparable with that of silica-based ODS columns
- Better retention of highly polar substances comparing to ODS columns
- Long column life even with high protein content samples: ODP2 HP prevent protein adsorption that causes ODS column degradation
- Excellent peak shape using low salt mobile phase, ideal for microbore
- High pH stability

ODP2 HP series is a polymer-based [poly(hydroxymethacrylate)] column for reversed-phase chromatography. The efficiency of ODP2 HP is improved over most resin-based columns, with typical theoretical plate number >65,000 per meter.

### ODP2 HP Columns

Packing	Format	i.d. x Length	Part No.
ODP2 HP-4B, 5µm	Analytical	4.6 x 50mm	F7622001
ODP2 HP-4D, 5µm	Analytical	4.6 x 150mm	F7622002
ODP2 HP-4E, 5µm	Analytical	4.6 x 250mm	F7622003
ODP2 HPG-4A, 5µm	Analytical	4.6 x 10mm	F6714010
ODP2 HP-2B, 5µm	Analytical	4.6 x 50mm	F7622004
ODP2 HP-2D, 5µm	Analytical	4.6 x 150mm	F7622005
ODP2 HPG-2A, 5µm	Analytical	4.6 x 10mm	F6714011

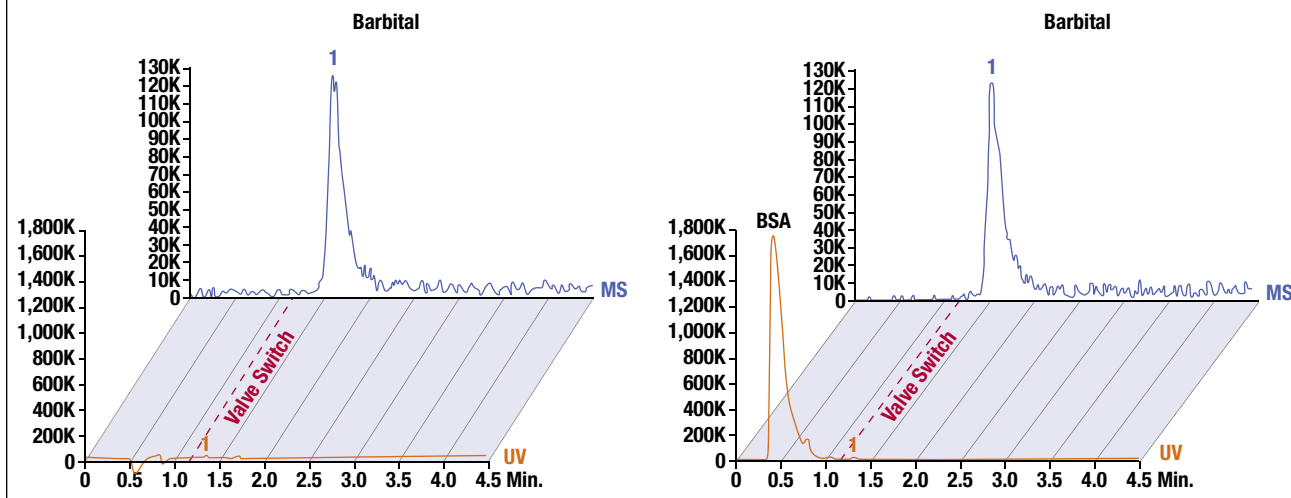
ODP2 HP Columns Specifications					
Packing	Theoretical Plate Number (per column)	Theoretical Plate Number (per meter)	Particle Size	pH Range	i.d. x Length
ODP2 HP-4B	≥3500	70,000	5µm	3–12	4.6 x 50mm
ODP2 HP-4D	≥13,000	86,000	5µm	3–12	4.6 x 150mm
ODP2 HP-4E	≥17,000	68,000	5µm	3–12	4.6 x 250mm
ODP2 HPG-4A	guard column	guard column	5µm	3–12	4.6 x 10mm
ODP2 HP-2B	≥3000	60,000	5µm	3–12	2.0 x 50mm
ODP2 HP-2D	≥7000	46,600	5µm	3–12	2.0 x 150mm
ODP2 HPG-2A	guard column	guard column	5µm	3–12	2.0 x 10mm

hplc columns | large molecule

### Drug in Biological Fluid

Microbore is effective for the high sensitivity analysis of drugs; however, when protein is present and enters the MS (Mass detector), it contaminates the MS or suppresses ionization of the sample. Often pretreatment does not remove protein thoroughly. Drugs in biological fluid are hard to analyze because protein co-elutes with the component of interest. The target drug receives ion suppression from the protein and appears as a small peak.

ODP2 HP can separate the target drug from protein by eluting protein early. The result of barbital analysis with BSA using microbore is shown as below. Barbital was introduced into the MS by a switching valve after BSA was eluted, and barbital was detected without any influence of ion suppression.



#### more info

For other Shodex® columns, including KW400, KF-400, SB-800, KF-400, KF-600, KF-800, NH2P, Ion Exchange, affinity, and sugar columns, visit [www.discoverysciences.com](http://www.discoverysciences.com).



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