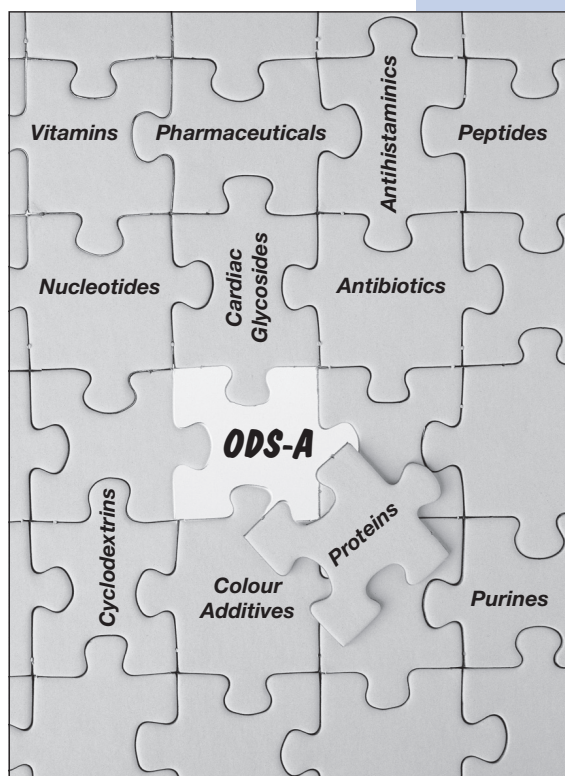


# TECHNICAL DATA

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# ODS-A

## ODS-A

- C18 fully endcapped
- workhorse
- highly versatile ODS
- provenly high reproducibility

## General

ODS-A, YMC's classical reversed phase packing material, is renowned worldwide because of its unique performance and reproducibility. Due to the high quality, ODS-A is successfully applied for the validation of analytical HPLC methods and for long-term reproducible preparative HPLC processes.

## Properties

The production of the base silica for ODS-A production and its derivatization are performed in large bulk batches. Exhaustive end-capping reduces highly the activity of silanol groups and minimizes unspecific secondary retention.

In addition to standard methods, like determination of adsorption isotherms, particle size distribution and carbon content (see table 1), YMC uses an extensive range of analytical methods to ensure constant and reproducible selectivity of the reversed phase packings.

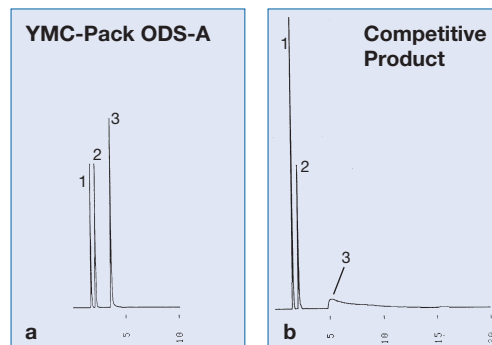
ODS-A	12 nm	20 nm	30 nm
$d_p$ / nm	12	20	30
$S_{BET}$ / $m^2g^{-1}$	330	175	100
[C] / %	17	12	7

$d_p$ : Pore size  
 $S_{BET}$ : Specific surface area  
[C]: Carbon content

Tab. 1: Physio-chemical properties of ODS-A

Metallic contaminants in silica can cause significant tailing of sample molecules like acetylacetone and 8-hydroxyquinoline, because they form coordination compounds with these metal ions. The metal ions are accesible freely at the surface of the silica. The data in figure 1 illustrate this effect by comparing virtually contamination-free YMC-Pack ODS-A and a "contaminated" competitive product, exhibiting drastic differences.

As coordinating functional groups are frequent structural components in pharmaceutical compounds, ultrapure packings, like YMC-Pack ODS-A, are needed for the reproducible separation of pharmaceutical compounds without secondary retention or tailing.



Column: YMC-Pack ODS-A  
(12 nm, 5  $\mu$ m, 150 x 4.6 mm)  
Eluent:  $KH_2PO_4$  (20 mM, pH 7.6)/Methanol = 40/60  
Flow: 1.0 ml/min  
Detection: UV, 254 nm  
Temperature: 37 °C  
Substances: 1. Uracil  
2. Acetylacetone  
3. 8-Hydroxyquinoline

Fig. 1: Coordination compounds  
a: Contamination-free packing material YMC-Pack ODS-A  
b: Contaminated product

## Applications

ODS-A is frequently used for pharmaceutical, biochemical and environmental applications, and for separation of food compounds as well.

YMC phases cover the complete particle size range from 3 to 150  $\mu$ m. As the selectivity is identical throughout the whole range, they are ideal for scale-up from analytical to preparative separations.

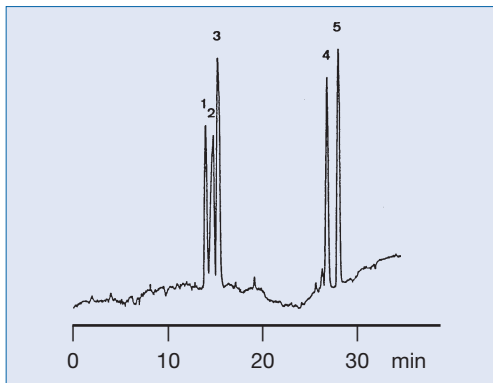
## Recommendations

The recommended pH range of using YMC-Pack ODS-A columns is 2-7.5. Flush acid and buffer salts before storage. Store the column in Methanol/Water =50/50. If columns are affected by undesired contaminants and back pressure increases, flush the column with THF. Clogged inlet frits can be cleaned by changing the flow direction or replacement.

## Separations

### Cyclodextrins

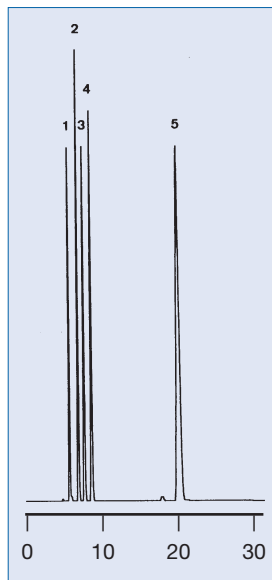
Column: YMC-Pack ODS-A  
(150 x 4.6 mm)  
Eluent: A = H<sub>2</sub>O  
B = Methanol  
Gradient: 2% B (0-5 min), 2-30% B (5-15 min,  
linear), 30-100% B (15-20 min, linear),  
100% B (20-30 min)  
Flow: 1.0 ml/min  
Detection: Evaporative Mass Analyser  
Temperature: 30 °C



1:  $\gamma$ -Cyclodextrin  
2:  $\alpha$ -Cyclodextrin  
3:  $\beta$ -Cyclodextrin  
4: o-Dimethyl- $\beta$ -Cyclodextrin  
5: o-Trimethyl- $\beta$ -Cyclodextrin

### Sugar Nucleotides

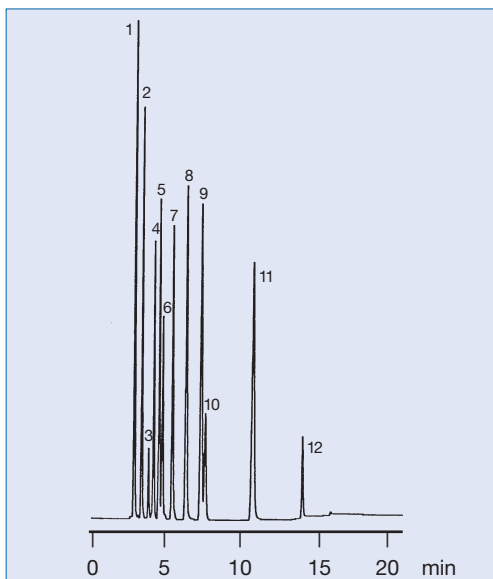
Column: YMC-Pack ODS-A  
(250 x 4.6 mm)  
Eluent: TEAA (20 mM, pH 5.7)/ACN = 99/1  
Flow: 1.0 ml/min  
Detection: UV, 260 nm  
Temperature: 37 °C



1: CDP-D-Glucose  
2: UDP-D-Glucose  
3: UDP-N-Acetyl  
D-Glucosamine  
4: GDP-D-Mannose  
5: ADP-D-Glucose

### Antibacterial Agents

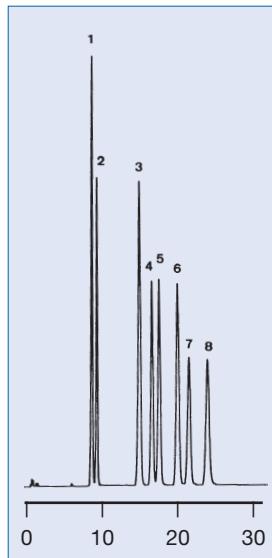
Column: YMC-Pack ODS-A  
(120 Å, 5  $\mu$ m, 250 x 4.6 mm)  
Eluent: A: ACN/NH<sub>4</sub>H<sub>2</sub>PO<sub>4</sub> (50 mM) = 10/90  
B: ACN/NH<sub>4</sub>H<sub>2</sub>PO<sub>4</sub> (50 mM) = 80/20  
Gradient: 25% B (0-5 min), 25-50% B (5-15 min),  
100% B (15-20 min)  
Flow: 1.0 ml/min  
Detection: UV, 240 nm  
Temperature: 37 °C



1: Olaquinox  
2: Carbadox  
3: Thiamphenicol  
4: Sulfamerazine  
5: Sulfadimidine  
6: Sulfanomethoxine  
7: Furazolidone  
8: Oxolinic Acid  
9: Sulfaminoxaline  
10: Sulfadimethoxine  
11: Nalidixic Acid  
12: Piromidic Acid

### Adrenocorticosteroids

Column: YMC-Pack ODS-A  
(120 Å, 5  $\mu$ m, 150 x 4.6 mm)  
Eluent: ACN/H<sub>2</sub>O = 27/73  
Flow: 1.0 ml/min  
Detection: UV, 260 nm  
Temperature: 37 °C



1: Hydrocortisone  
2: Cortisone  
3: Methylprednisolone  
4: Betamethasone  
5: Dexamethasone  
6: Corticosterone  
7: Beclomethasone  
8: Triamcinolone  
Acetonide

### ODS-A

- pharmaceuticals
- organic intermediates
- natural compounds
- antibiotics
- vitamins
- peptides

## Bulk Material

ODS-A	6 nm	8 nm	12 nm	20 nm	30 nm	100 nm
3 µm	▲		●	●		
5 µm	▲		●	●	●	▲
10 µm	▲		●	●	●	▲
15 µm	▲		●	●	●	
20 µm	▲		●	▲	▲	▲
50 µm	▲		●	▲		
150 µm			▲			

● = routinely available

▲ = on request

## Typical Column Dimensions

	Specification	Dimension	Code
<b>Analytical</b>	12 nm, spherical, 5 µm	250 x 4.6 mm i.d.	AA 12 S 05 25 46
	12 nm, spherical, 5 µm	150 x 4.6 mm i.d.	AA 12 S 05 15 46
	12 nm, spherical, 5 µm	100 x 4.6 mm i.d.	AA 12 S 05 10 46
	20 nm, spherical, 5 µm	250 x 4.6 mm i.d.	AA 20 S 05 25 46
	20 nm, spherical, 5 µm	150 x 4.6 mm i.d.	AA 20 S 05 15 46
	20 nm, spherical, 5 µm	100 x 4.6 mm i.d.	AA 20 S 05 10 46
<b>Semi-prep.</b>	12 nm, spherical, 5 µm	250 x 20 mm i.d.	AA 12 S 05 25 20
	12 nm, spherical, 5 µm	150 x 20 mm i.d.	AA 12 S 05 15 20
	12 nm, spherical, 5 µm	100 x 20 mm i.d.	AA 12 S 05 10 20
	20 nm, spherical, 5 µm	250 x 20 mm i.d.	AA 20 S 05 25 20
	20 nm, spherical, 5 µm	150 x 20 mm i.d.	AA 20 S 05 15 20
	20 nm, spherical, 5 µm	100 x 20 mm i.d.	AA 20 S 05 10 20

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For Bulk Media:  
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USA  
Tel. (1) 610-392-5067  
Fax (1) 610-954-5311

## Ordering Information

If your desired column is not mentioned above, please fill in your column data.

Stationary Phase YMC-Katalog, page 23	Pore Size (nm)	Particle Shape spherical (S) or irregular (I)	Particle Size (µm)	Length (cm)	Inner Diameter (mm)

Submit your personal order to your local  
YMC-Support-Center.

YMC Europe GmbH General Conditions of  
Sale apply.

YMC-Support-Center: