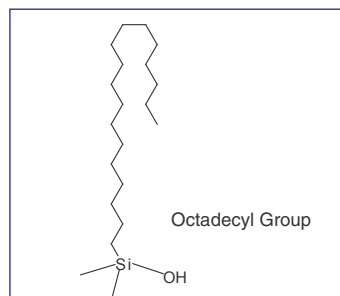


# Wide Pore HPLC Column for Protein Chemistry

## COSMOSIL Protein-R

- *Excellent Separation*
- *High recovery rate*
- *Outstanding Stability at Low pH*

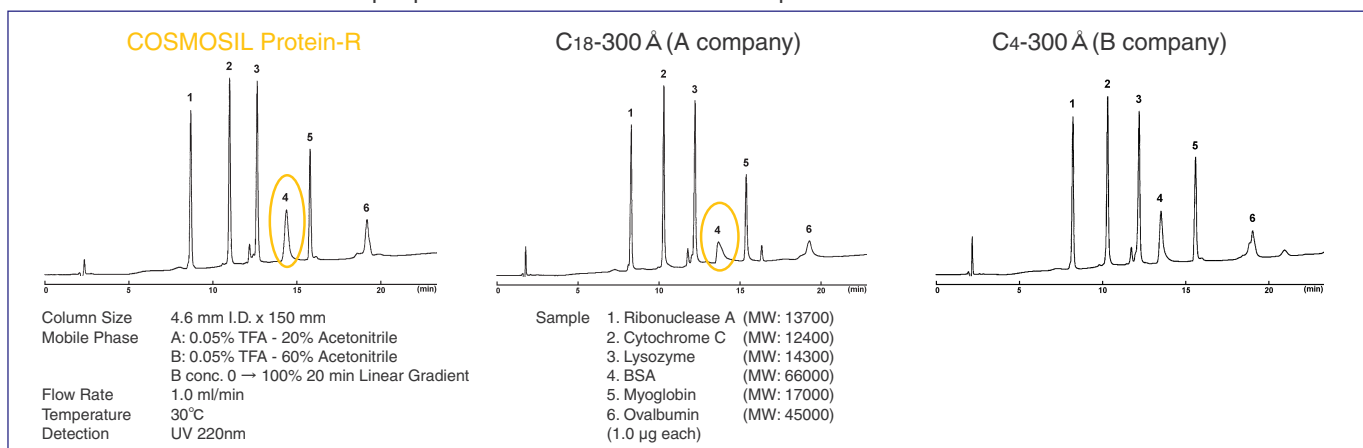
Silica Gel	High Purity Porous Spherical Silica
Average Particle Size	5 $\mu\text{m}$
Average Pore Size	approx. 300 $\text{\AA}$
Stationary Phase	Octadecyl Group
Main Interaction	Hydrophobic Interaction



COSMOSIL Protein-R is a reversed phase HPLC column designed specifically for protein and peptide separation. COSMOSIL Protein-R provides significantly improved peak shapes, high recovery rate and outstanding stability at low pH, which are often problematic for the separation of proteins and peptides with conventional C18-300  $\text{\AA}$  and C4-300  $\text{\AA}$  columns.

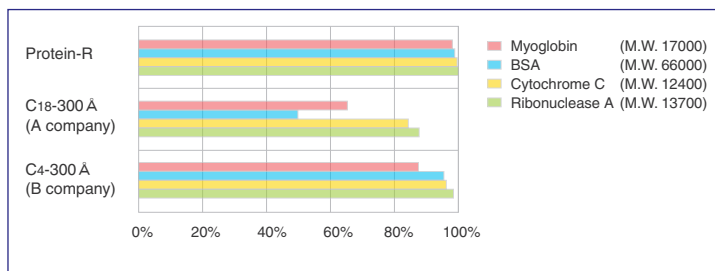
### Improved Separation

COSMOSIL Protein-R shows sharper peaks than conventional C18 wide pore columns.



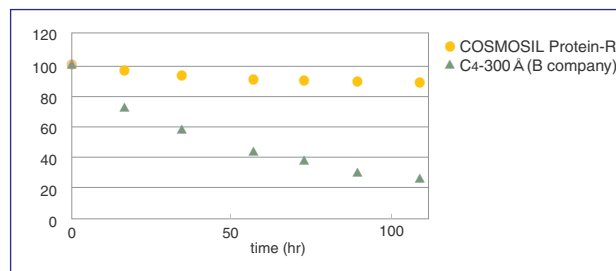
### Recovery Rate

COSMOSIL Protein-R shows a higher recovery rate than conventional C18-300  $\text{\AA}$  and C4-300  $\text{\AA}$  columns.



### Durability

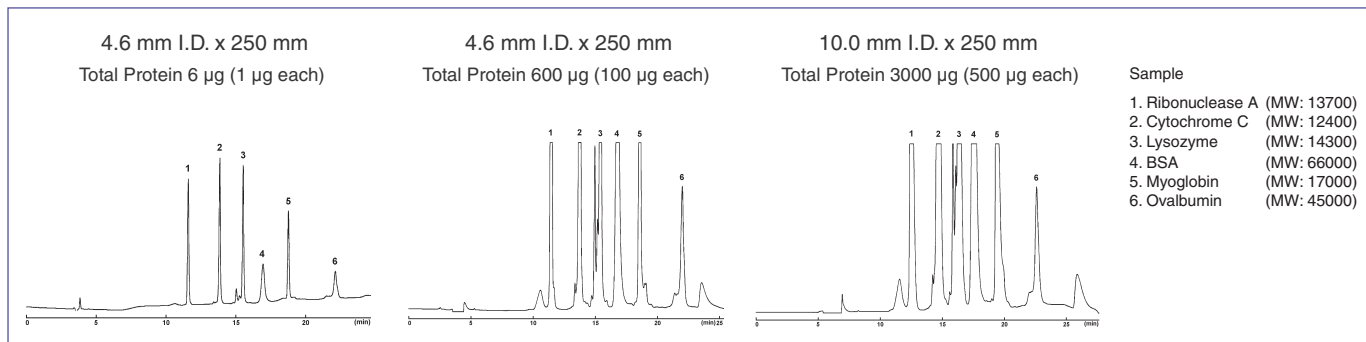
COSMOSIL Protein-R provides more consistent retention time and longer column lifetimes than conventional C4-300  $\text{\AA}$ .



	Disadvantages
C4-300 $\text{\AA}$	Weak Acid Resistance
C18-300 $\text{\AA}$	Low Separation Capacity Low Recovery Rate

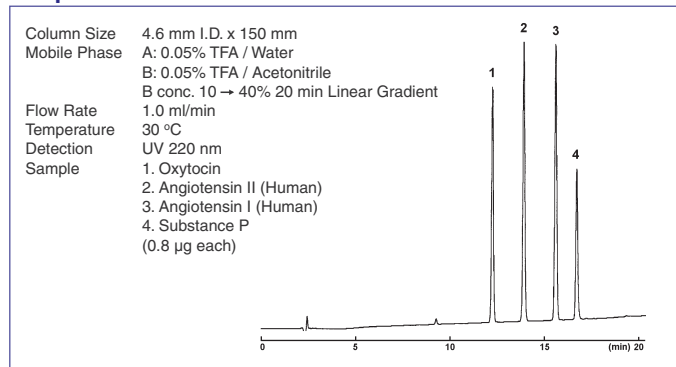
Advantages of COSMOSIL Protein-R
<b>COSMOSIL Protein-R improves these disadvantages. Dramatic improvement of separation capacity and recovery rate with high acid resistance.</b>

## Preparative Separation

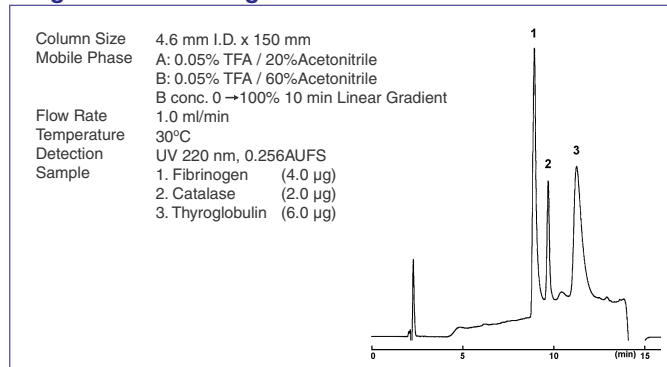


## Application Data

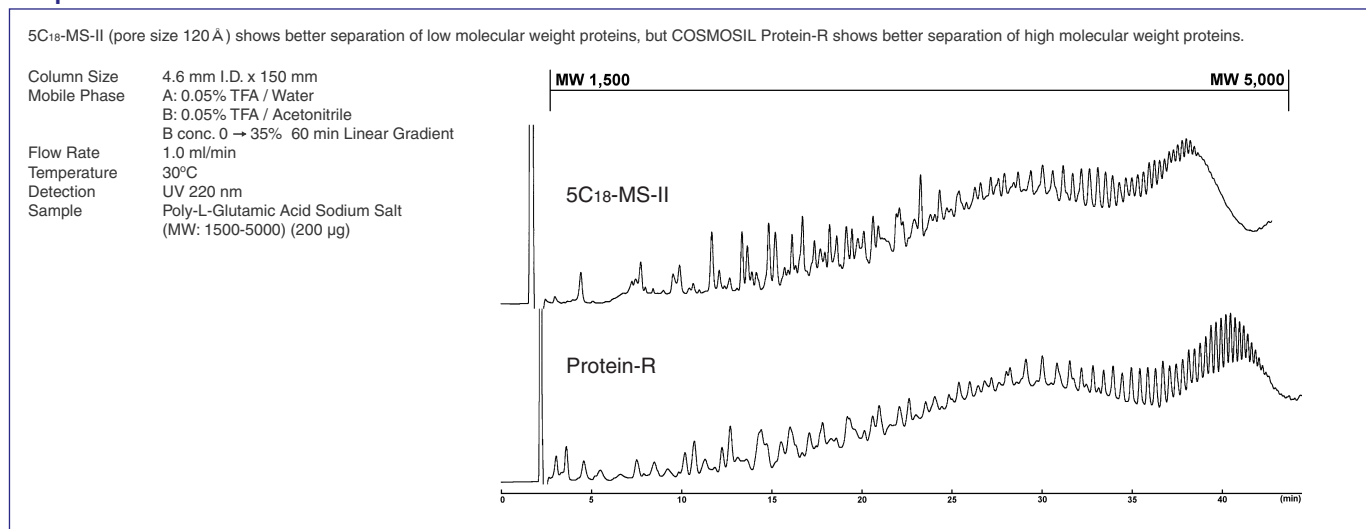
### Peptides



### High Molecular Weight Proteins



### Peptides



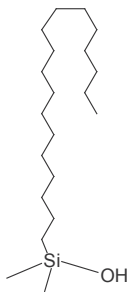
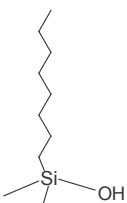
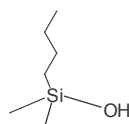
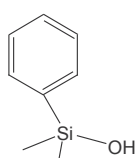
## Ordering Information

Product Name	Column Size	Product Number	Product name	Column Size	Product Number
COSMOSIL Protein-R	2.0 mm I.D. x 150 mm	06514-71	COSMOSIL Protein-R	4.6 mm I.D. x 10 mm	06518-31
Packed Column	4.6 mm I.D. x 50 mm	06525-31	Guard Column	10.0 mm I.D. x 20 mm	06528-01
	4.6 mm I.D. x 150 mm	06526-21		20.0 mm I.D. x 20 mm	08692-81
	4.6 mm I.D. x 250 mm	06527-11			
	10.0 mm I.D. x 150 mm	06529-91			
	10.0 mm I.D. x 250 mm	06530-51			
	20.0 mm I.D. x 150 mm	06531-41			
	20.0 mm I.D. x 250 mm	06532-31			

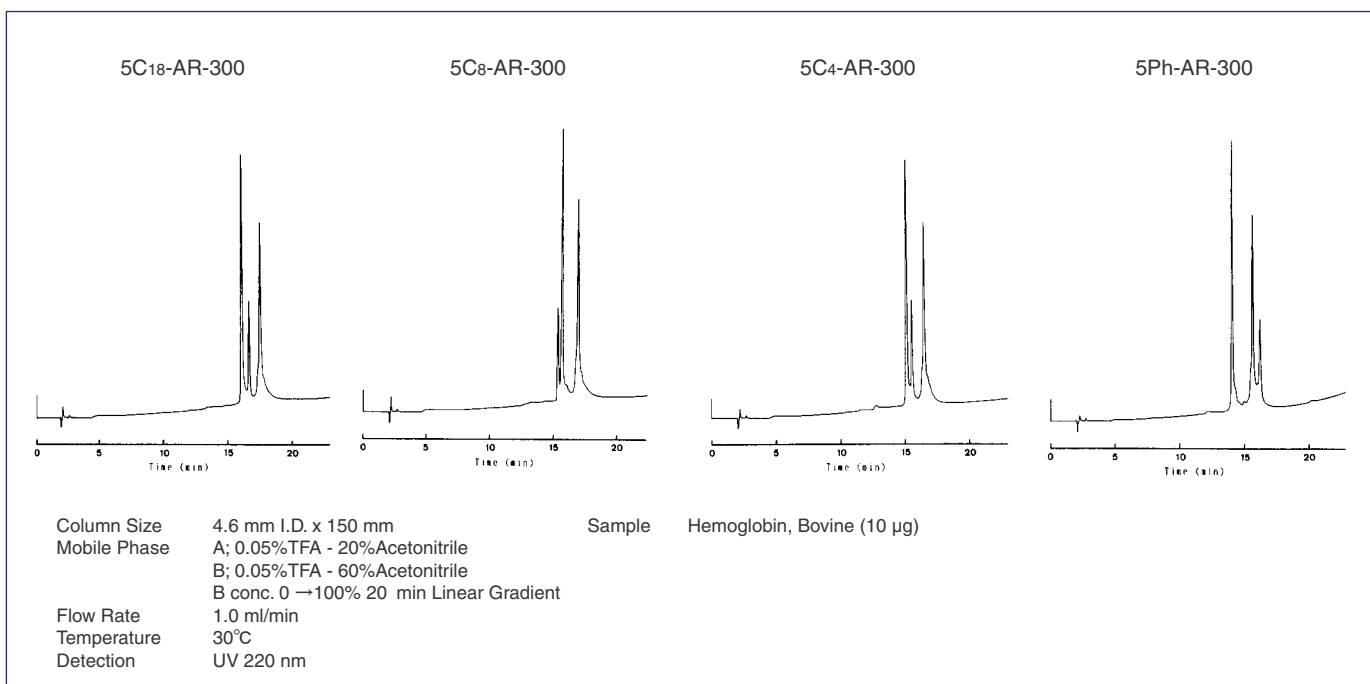
Other size may be available. Please enquire.

## COSMOSIL C18-AR-300, C8-AR-300, C4-AR-300, Ph-AR-300

COSMOSIL offers a variety of stationary phases with wide-pore silica gel material for separations of polypeptides and proteins.

	5C18-AR-300	5C8-AR-300	5C4-AR-300	5Ph-AR-300
Stationary Phase				
	Octadecyl Group approx. 12%	Octyl Group approx. 7%	Butyl Group approx. 6%	Phenyl Group approx. 7%
Carbon Content	approx. 12%	approx. 7%	approx. 6%	approx. 7%
USP Category	L1	L7	L26	L11
Main Interaction	Hydrophobic Interaction			Hydrophobic Interaction $\pi$ - $\pi$ Interaction
Packing Material	High Purity Porous Spherical Silica			
Average Particle Size	5 $\mu$ m			
Average Pore Size	approx. 300 Å			

### Comparison of Separation



For more data on C18-AR-300, C8-AR-300, C4-AR-300, Ph-AR-300, please visit our website at [www.nacalai.com](http://www.nacalai.com)

### COSMOSIL Chromatogram Index

COSMOSIL Chromatogram Index includes more than 7,500 chromatograms using COSMOSIL columns. This index is useful for optimizing analytical conditions. The online data are searchable by type of compounds, compounds name, column name, molecular formula and CAS No.

### COSMOSIL Application Data

COSMOSIL Application data includes more than 1,000 application data using COSMOSIL columns. The online data is searchable by name of sample and column.

## Ordering Information

Particle Size: 5 µm (Analytical / Preparative columns)

### COSMOSIL 5C<sub>18</sub>-AR-300

Product Name	Column Size	Product Number
COSMOSIL 5C <sub>18</sub> -AR-300	4.6 mm I.D. x 50 mm	37911-01
Packed Column	4.6 mm I.D. x 150 mm	37913-81
	4.6 mm I.D. x 250 mm	37914-71
	10.0 mm I.D. x 150 mm	37917-41
	10.0 mm I.D. x 250 mm	37918-31
	20.0 mm I.D. x 150 mm	37919-21
	20.0 mm I.D. x 250 mm	37920-81

Product Name	Column Size	Product Number
COSMOSIL 5C <sub>18</sub> -AR-300	4.6 mm I.D. x 10 mm	37910-11
Guard Column	10.0 mm I.D. x 20 mm	37965-11

### COSMOSIL 5C<sub>8</sub>-AR-300

Product Name	Column Size	Product Number
COSMOSIL 5C <sub>8</sub> -AR-300	4.6 mm I.D. x 50 mm	37951-81
Packed Column	4.6 mm I.D. x 150 mm	37953-61
	4.6 mm I.D. x 250 mm	37954-51
	10.0 mm I.D. x 150 mm	34345-21
	10.0 mm I.D. x 250 mm	34247-11
	20.0 mm I.D. x 150 mm	05861-51
	20.0 mm I.D. x 250 mm	34364-71

Product Name	Column Size	Product Number
COSMOSIL 5C <sub>8</sub> -AR-300	4.6 mm I.D. x 10 mm	37950-91
Guard Column	10.0 mm I.D. x 20 mm	34464-61

### COSMOSIL 5C<sub>4</sub>-AR-300

Product Name	Column Size	Product Number
COSMOSIL 5C <sub>4</sub> -AR-300	4.6 mm I.D. x 50 mm	37956-31
Packed Column	4.6 mm I.D. x 150 mm	37958-11
	4.6 mm I.D. x 250 mm	37959-01
	10.0 mm I.D. x 150 mm	34249-91
	10.0 mm I.D. x 250 mm	38047-11
	20.0 mm I.D. x 150 mm	34477-01
	20.0 mm I.D. x 250 mm	38048-01

Product Name	Column Size	Product Number
COSMOSIL 5C <sub>4</sub> -AR-300	4.6 mm I.D. x 10 mm	37955-41
Guard Column	10.0 mm I.D. x 20 mm	05862-41

### COSMOSIL 5Ph-AR-300

Product Name	Column Size	Product Number
COSMOSIL 5Ph-AR-300	4.6 mm I.D. x 50 mm	37961-51
Packed Column	4.6 mm I.D. x 150 mm	37963-31
	4.6 mm I.D. x 250 mm	37964-21
	10.0 mm I.D. x 150 mm	05865-11
	10.0 mm I.D. x 250 mm	34267-51
	20.0 mm I.D. x 150 mm	05866-01
	20.0 mm I.D. x 250 mm	34468-21

Product Name	Column Size	Product Number
COSMOSIL 5Ph-AR-300	4.6 mm I.D. x 10 mm	37960-61
Guard Column	10.0 mm I.D. x 20 mm	34268-41

Other size may be available. Please enquire.

For research use only, not intended for diagnostic or drug use.

