

(2) Gel Filtration Chromatography Column (aqueous)

COSMOSIL Diol-120-II, Diol-300-II

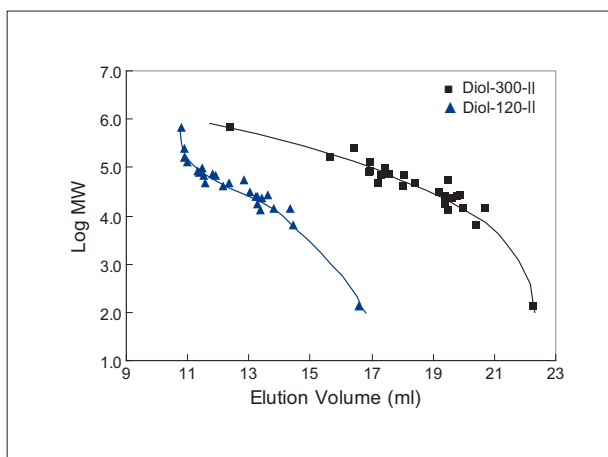
- Ideal for the size-based separation of proteins and water soluble polymers
- Reduce undesirable adsorption

Specifications

Packing Material	5Diol-120-II	5Diol-300-II
Silica Gel	High Purity Porous Spherical Silica	
Average Particle Size	5 μm	
Average Pore Size	approx. 120 \AA	approx. 300 \AA
Bonded Phase	Diol Group	
Object Substance	Proteins, Water Soluble Polymers	
Flow Rate	0.5-1.0 (ml/min)	
Selection of Pore Size (protein)	5,000-100,000	10,000-700,000
Selection of Pore Size (water soluble polymers)	300-30,000	500-300,000

Calibration Curve

- Calibration Curve of Proteins



Column COSMOSIL 5Diol-II 7.5mmI.D.x 600 mm
 Mobile Phase 20mmol/l Phosphate Buffer (pH7.0)+100mmol/l Na₂SO₄
 Flow Rate 1.0ml/min
 Temperature 30°C

Sample	M.W.	Sample	M.W.
Thyroglobulin	660,000	Peroxidase	40,000
Catalase	250,000	Carbonic Anhydrase	30,000
Glucose Oxidase	160,000	α -Chymotrypsinogen A	25,700
Uricase	128,000	α -Chymotrypsin	25,200
Choline Oxidase	95,000	Trypsinogen	24,000
Transferrin	85,000	Trypsin (bovine)	23,300
Conalbumin	77,500	Myoglobin	17,000
Malate Dehydrogenase	70,000	Lysozyme	14,300
α -Glucosidase	68,500	Ribonuclease A	13,700
Albumin (BSA)	66,000	Cytochrome C	12,400
α -Amylase	52,500	Aprotinin	6,500
Fetuin	48,000	Gly-Gly	132
Albumin (Ovalbumin)	45,000		

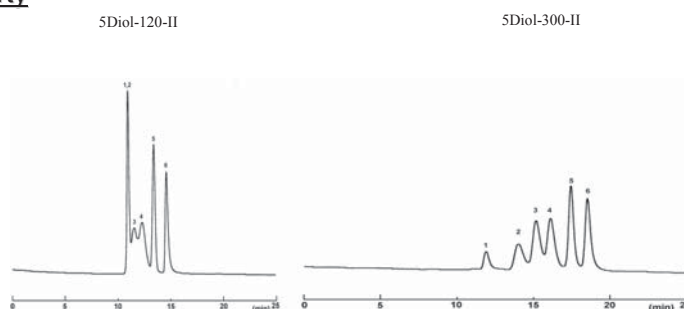
Separation of Standard Proteins

COSMOSIL Diol-II series are available in two different pore sizes, Diol-120-II and Diol-300-II. Combination of these two columns enables separation of a wide M.W. range of samples.

Comparison of Separation Property

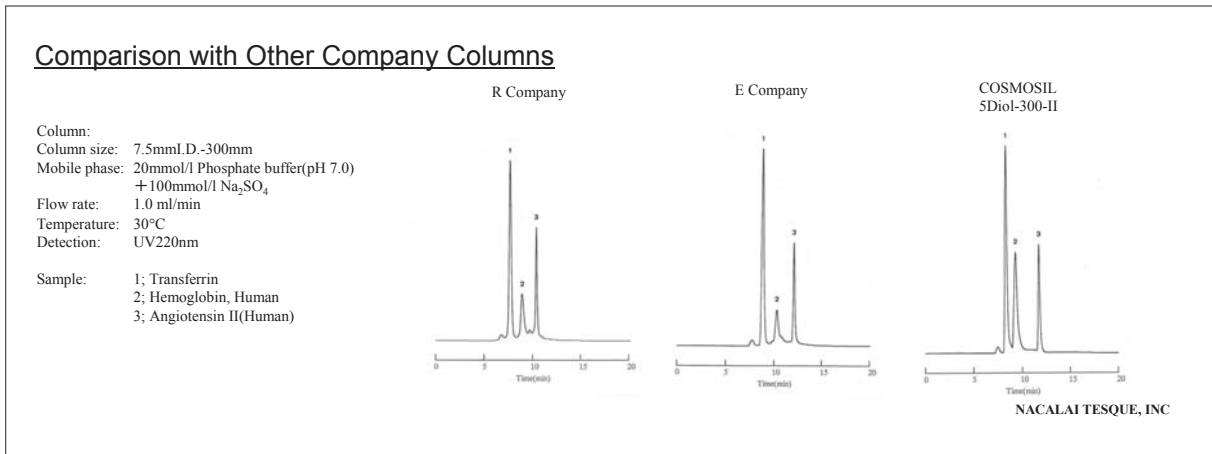
Column: 7.5mmI.D.-600mm
 Column size: 7.5mmI.D.-600mm
 Mobile phase: 20mmol/l Phosphate buffer(pH 7.0)
 + 100mmol/l Na₂SO₄
 Flow rate: 1.0 ml/min
 Temperature: Room temperature
 Detection: UV220nm

Sample: 1; Thyroglobulin
 2; Glucose Oxidase
 3; Conalbumin
 4; Peroxidase
 5; Myoglobin
 6; Aprotinin



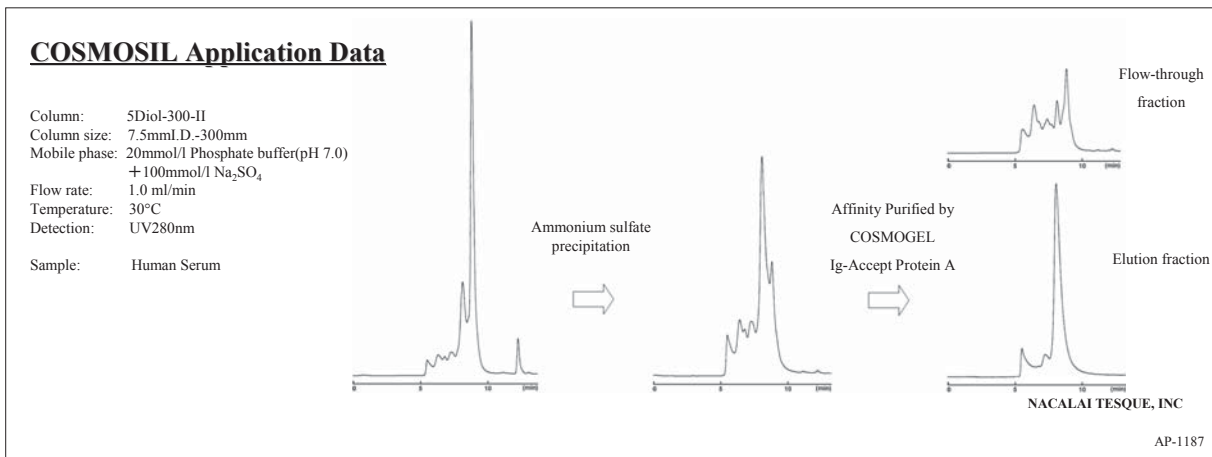
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Comparison with Other Company Columns



Applications

• Human Serum



Ordering Information

• Analytical / Preparative Column (Particle Size: 5 μm)

COSMOSIL 5Diol-120-II Packed Column

Column Size I.D. x Length (mm)	Product Number
7.5 x 300	38050-51
7.5 x 600	38051-41

COSMOSIL 5Diol-120-II Guard Column

Column Size I.D. x Length (mm)	Product Number
7.5 x 50	38049-91

COSMOSIL 5Diol-300-II Packed Column

Column Size I.D. x Length (mm)	Product Number
7.5 x 300	38053-21
7.5 x 600	38054-11

COSMOSIL 5Diol-300-II Guard Column

Column Size I.D. x Length (mm)	Product Number
7.5 x 50	38052-31



COSMOSIL

Gel Filtration Chromatography

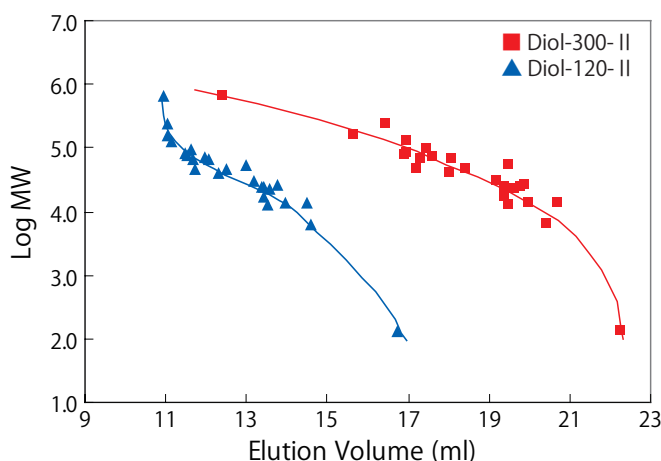
COSMOSIL Diol-II

- Ideal for the size-based separation of proteins and water soluble polymers
- Reduce undesirable adsorption

Material Characteristics

Packing Material	5Diol-120-II	5Diol-300-II
Silica Gel	High Purity Porous Spherical Silica	
Average Particle Size	5 µm	
Average Pore Size	approx. 120Å	approx. 300Å
Stationary Phase	Diol Group	
Object Substance	Protein and Water Soluble Polymer	
Flow Rate	0.5-1.0 ml/min	
Selection of Pore Size (Proteins)	5,000-100,000	10,000-700,000
Selection of Pore Size (Water Soluble Polymer)	300-30,000	500-300,000

Calibration Curve of Proteins



Column COSMOSIL 5Diol-II 7.5mm I.D. x 600mm
 Mobile phase 20mmol/l Phosphate Buffer (pH 7.0) +100mmol/l Na₂SO₄
 Flow rate 1.0ml/min
 Temperature 30 °C

Sample	MW	Sample	MW
Thyroglobulin	660,000	Peroxidase	40,000
Catalase	250,000	Carbonic Anhydrase	30,000
Glucose Oxidase	160,000	α-Chymotrypsinogen A	25,700
Uricase	128,000	α-Chymotrypsin	25,200
Choline Oxidase	95,000	Trypsinogen	24,000
Transferrin	85,000	Trypsin (bovine)	23,300
Conalbumin	77,500	Myoglobin	17,000
Malate Dehydrogenase	70,000	Lysozyme	14,300
α-Glucosidase	68,500	Ribonuclease A	13,700
Albumin (BSA)	66,000	Cytochrome C	12,400
α-Amylase	52,500	Aprotinin	6,500
Fetuin	48,000	Gly-Gly	132
Albumin (Ovalbumin)	45,000		

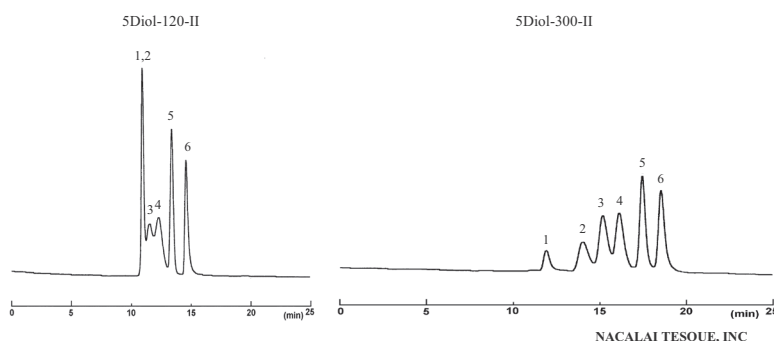
Separation of Standard Proteins

COSMOSIL Diol-II series are available in two different pore sizes, Diol-120-II and Diol-300-II. Combination of these two columns enables separation of a wide MW range of samples.

Comparison of separation property

Column: 7.5mm I.D.-600mm
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 Mobile phase: 20mmol/l Phosphate buffer (pH 7.0) +100mmol/l Na₂SO₄
 Flow rate: 1.0 ml/min
 Temperature: Room temperature
 Detection: UV220nm

Sample: 1; Thyroglobulin
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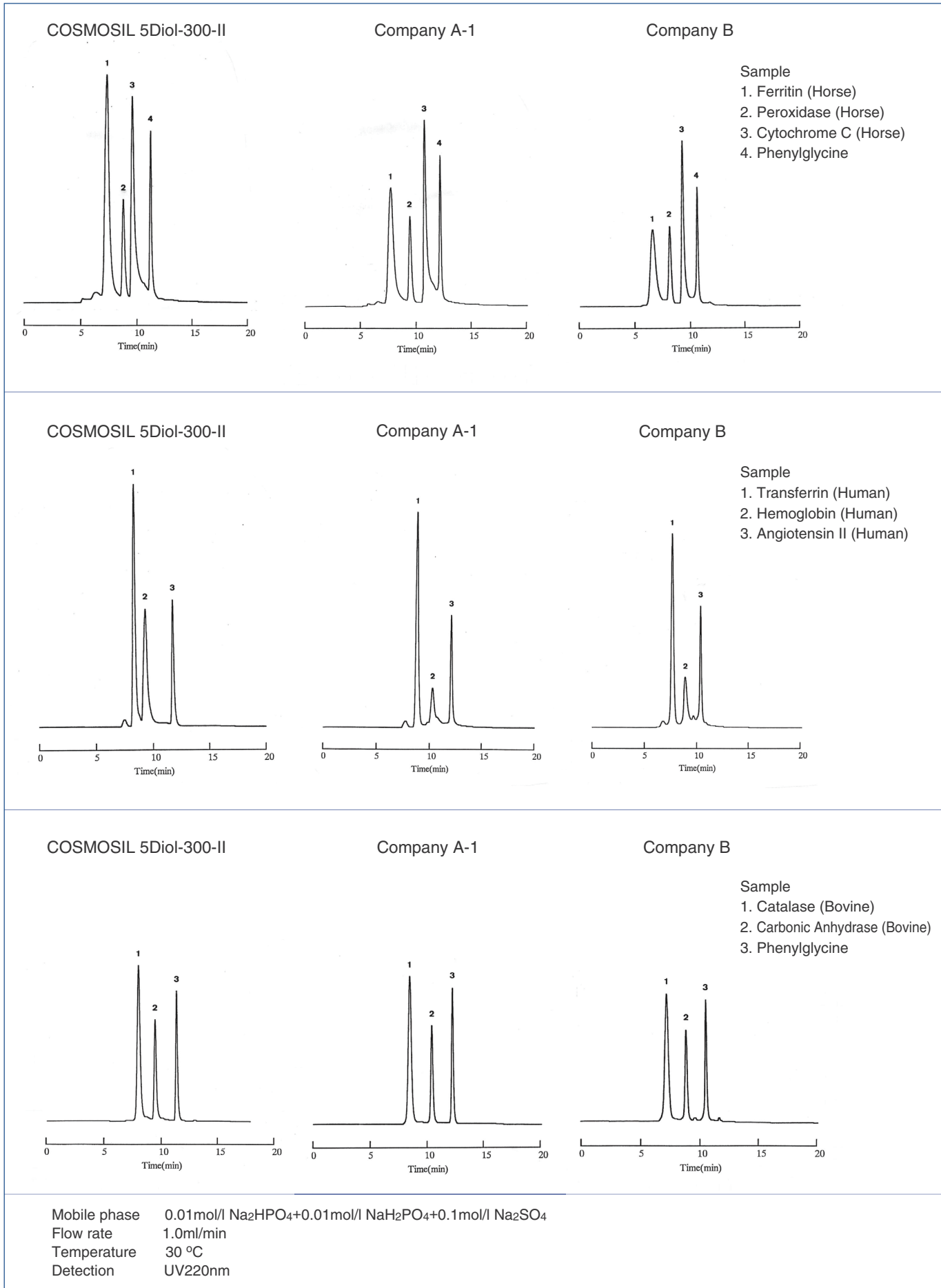


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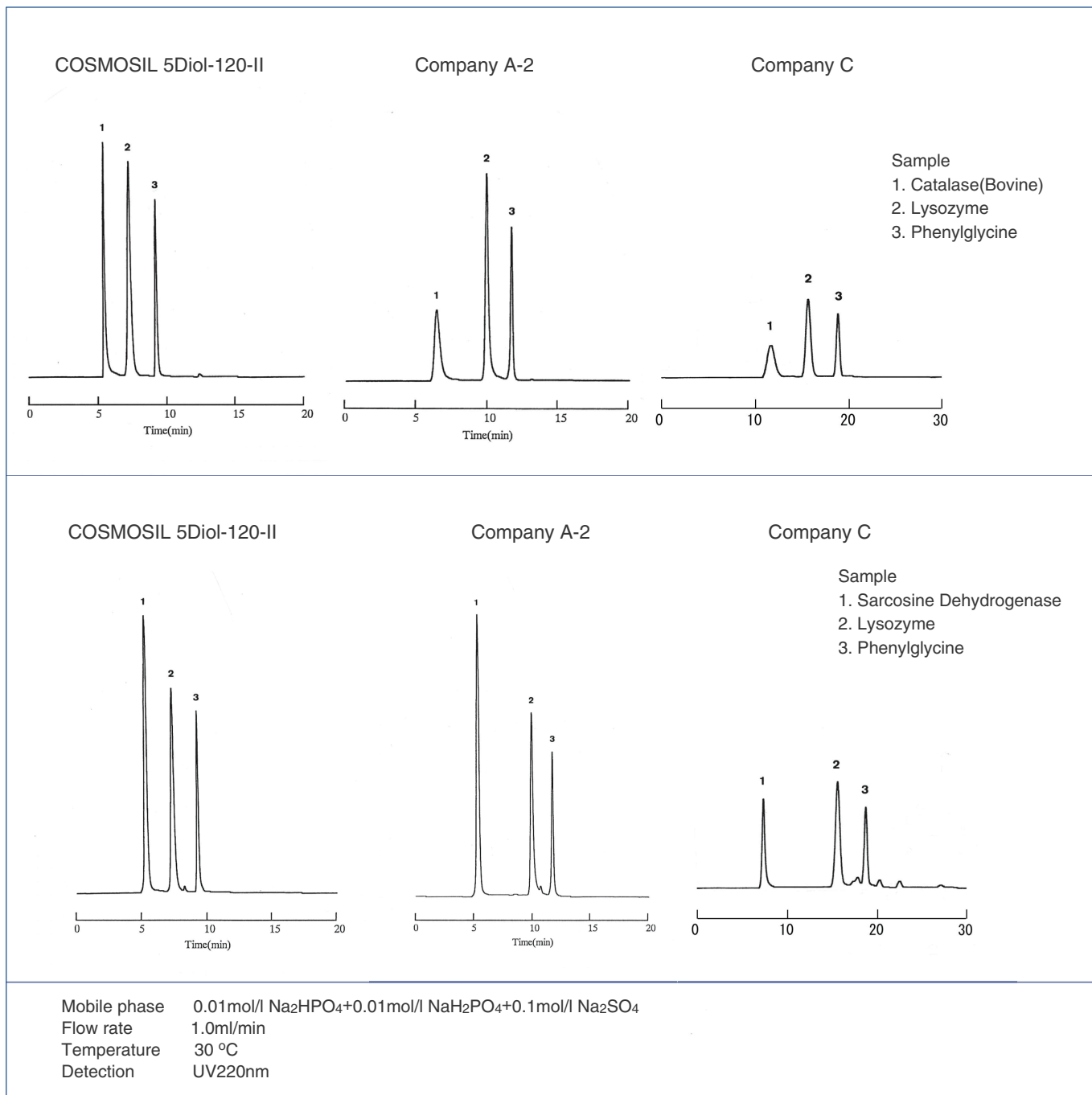
Comparison with Competitors' Columns

COSMOSIL Diol-II series shows excellent separation compared to competitors' columns.

• COSMOSIL 5Diol-300-II



• COSMOSIL 5Diol-120-II

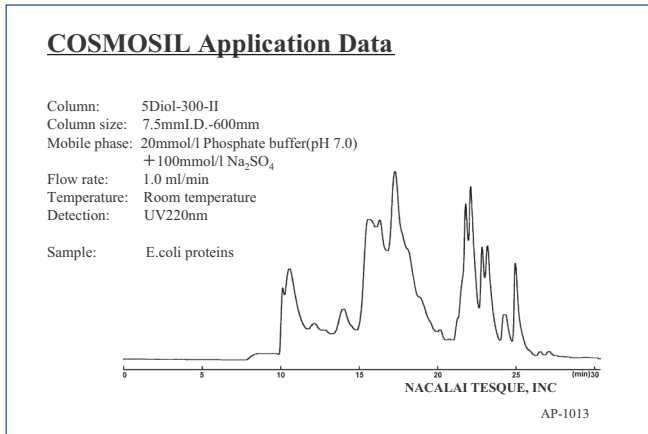


• Material Characteristics' Comparison with Competitors' Columns

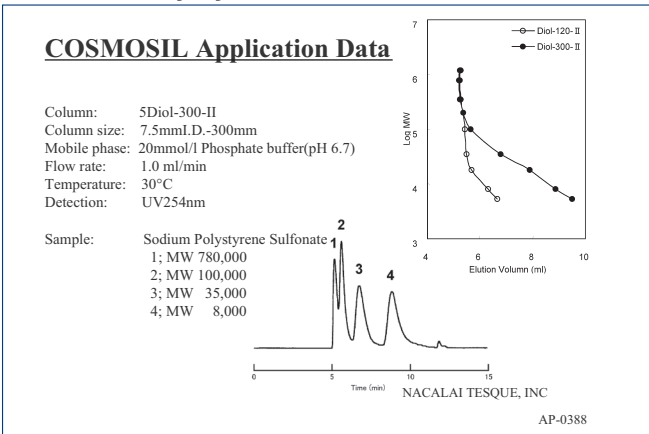
Column	Gel	Average Particle Size	Average Pore Size	Column Size	Chart Speed
COSMOSIL 5Diol-300-II	Silica Gel	5 µm	approx. 300 Å	7.5 mm I.D. x 300 mm	5 mm/min
Company A-1	Silica Gel	5 µm	250 Å	7.8 mm I.D. x 300 mm	5 mm/min
Company B	Silica Gel	5 µm	250 Å	7.8 mm I.D. x 300 mm	5 mm/min
COSMOSIL 5Diol-120-II	Silica Gel	5 µm	approx. 120 Å	7.5 mm I.D. x 300 mm	5 mm/min
Company A-2	Silica Gel	5 µm	125 Å	7.8 mm I.D. x 300 mm	5 mm/min
Company C	Polymer	-	-	10 mm I.D. x 300 mm	2.8 mm/min

Application Data

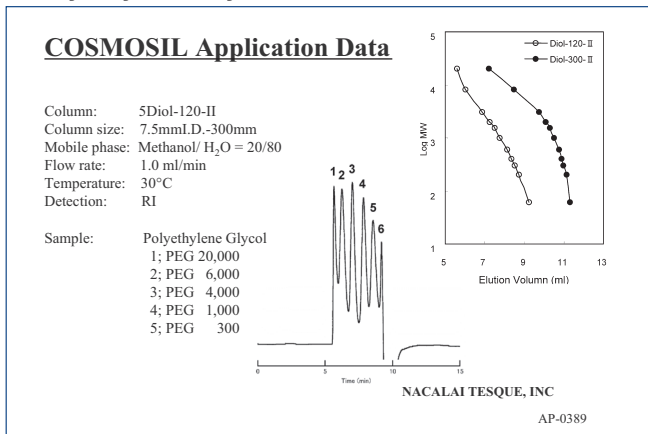
• E. Coli Proteins



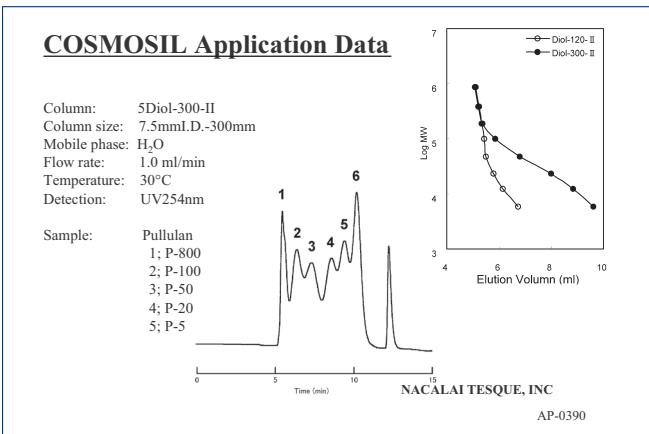
• Sodium Polystyrene Sulfonate



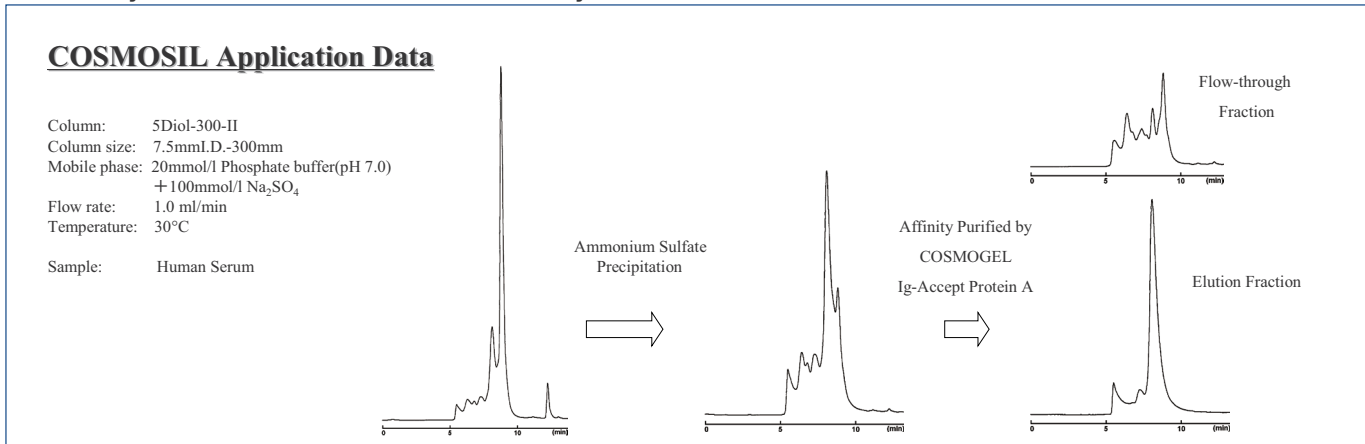
• Polyethylene Glycols



• Pullulan



• Antibody Purification from Human Serum by Gel Filtration Column



Ordering Information

• COSMOSIL 5Diol-120-II

	Column Size	Product Number
Packed Column	7.5 mm I.D. x 300 mm	38050-51
	7.5 mm I.D. x 600 mm	38051-41
Guard Column	7.5 mm I.D. x 50 mm	38049-91

• COSMOSIL 5Diol-300-II

	Column Size	Product Number
Packed Column	7.5 mm I.D. x 300 mm	38053-21
	7.5 mm I.D. x 600 mm	38054-11
Guard Column	7.5 mm I.D. x 50 mm	38052-31

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

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The quality for certainty.

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