

ShimOMNIA Chiral Column



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ShimOMNIA Chiral series offers a wide range of chiral stationary phases that provides remarkable enantioselectivity of chiral compounds across various applications with unmatched versatility and efficiency. Our product line encompasses not only conventional coated and immobilized polysaccharide phases, but also other specialty phases such as protein-based phases and brush-type phases.

Polysaccharide Chiral Stationary Phases

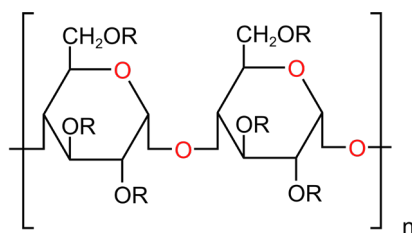
Polysaccharide-based chiral stationary phase represents one of the most commonly employed type of chiral stationary phases for separation of enantiomers. ShimOMNIA Chiral series offers a comprehensive range of either amylose or cellulose chiral stationary phases, coated or immobilized on spherical silica, designed for the effective separation and analysis of various chiral molecules.

Coated Polysaccharide Chiral Stationary Phase

Coated polysaccharide chiral columns are filled with silica particles that are physically coated with modified amylose (Amy) or cellulose (Cel). As the stationary phases are not covalently attached to the silica particle, it is crucial to avoid extreme solvents such as ethers (including THF), acetone, chlorinated solvents, ethyl acetate, DMSO, DMF, N-methyl formamide, toluene, ketones, dimethylacetamide and IPA > 50%, as these solvents can potentially dissolve the polysaccharide derivatives, even when present in minimal quantities.

Coated Amylose Phases

Amylose:

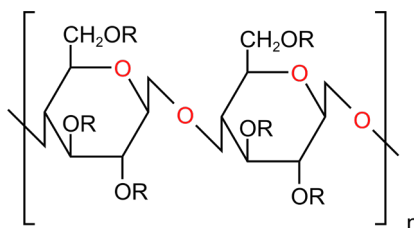


ShimOMNIA	Chiral Amy-1	Chiral Amy-4	Chiral Amy-9	Chiral Amy-12
Phase	R: Amylose tris-(3,5-dimethylphenylcarbamate)	R: Amylose tris-(3-chloro-4-methylphenylcarbamate)	R: Amylose tris-(5-chloro-2-methylphenylcarbamate)	R: Amylose tris-[(S)-α-methylbenzylcarbamate]
Similar to	Chiralpak AD, Lux Amylose-1	Chiralpak AZ	Chiralpak AY, Lux Amylose-2	Chiralpak AS
Pore Size (nm)	100	100	100	100
Surface Area (m ² /g)	30	30	30	30
End Capping	No	No	No	No
pH Range	2 - 8			
USP Code	L51	-	-	L90

		Chiral Amy-1	Chiral Amy-4	Chiral Amy-9	Chiral Amy-12
Particle Size (μm)	ID(mm)	4.6	4.6	4.6	4.6
	Length(mm)				
3	250	226-55924-01			
5	150	226-55924-02	226-55933-01	226-55934-01	226-55925-01
	250	226-55924-03	226-55933-02	226-55934-02	226-55925-02
10	150	226-55924-04			
	250	226-55924-05			226-55925-03

Coated Cellulose Phases

Cellulose:



ShimOMNIA	Chiral Cel-1	Chiral Cel-4	Chiral Cel-7	Chiral Cel-10
Phase	R: Cellulose tris-(3,5-dimethylphenylcarbamate)	R: Cellulose tris-(3-chloro-4-methylphenylcarbamate)	R: Cellulose tris-(4-chloro-3-methylphenylcarbamate)	R: Cellulose tris-(4-methylphenylcarbamate)
Similar to	Chiralcel OD, Lux Cellulose-1	Chiralcel OZ	Chiralcel OX, Lux Cellulose-4	Chiralcel OG
Pore Size (nm)	100	100	100	100
Surface Area (m ² /g)	30	30	30	30
End Capping	No	No	No	No
pH Range	2 - 8			
USP Code	L40	-	-	-

ShimOMNIA	Chiral Cel-11	Chiral Cel-13	Chiral Cel-14
Phase	R: Cellulose tris-(phenylcarbamate)	R: Cellulose tris-(4-methylbenzoate)	R: Cellulose tribenzoate
Similar to	Chiralcel OC	Chiralcel OJ, Lux Cellulose-3	Chiralcel OB
Pore Size (nm)	100	100	100
Surface Area (m ² /g)	30	30	30
End Capping	No	No	No
pH Range	2 - 8		
USP Code	L40	-	-

		Chiral Cel-1		Chiral Cel-1-R	Chiral Cel-4	Chiral Cel-7
Particle Size (μm)	ID(mm) Length(mm)	2.1	4.6	4.6	4.6	4.6
3	150	226-55922-01	226-55922-05			
5	150	226-55922-02	226-55922-06	226-55923-01	226-55930-01	226-55931-01
	250	226-55922-03	226-55922-07		226-55930-02	226-55931-02
	300			226-55923-02		
10	250	226-55922-04	226-55922-08			

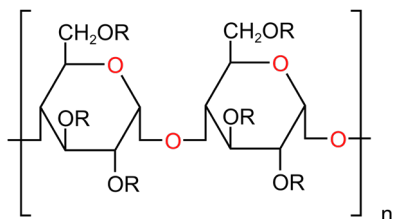
		Chiral Cel-10	Chiral Cel-11	Chiral Cel-13	Chiral Cel-13-R	Chiral Cel-14
Particle Size (μm)	ID(mm) Length(mm)	4.6	4.6	4.6	4.6	4.6
3	150					
5	150	226-55929-01	226-55928-01	226-55926-01	226-55927-01	226-55932-01
	250	226-55929-02	226-55928-02	226-55926-02	226-55927-02	226-55932-02
	300					
10	250		226-55928-03	226-55926-03		

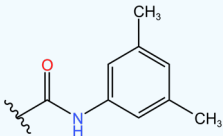
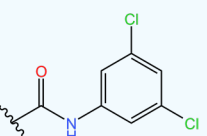
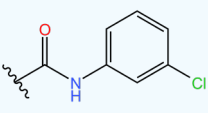
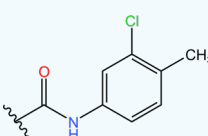
Immobilized Polysaccharide Chiral Stationary Phase

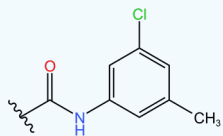
Immobilized polysaccharide chiral columns are packed with silica particles that are covalently bonded with modified amylose (iAmy) or cellulose (iCel), which enhances the robustness of the columns. These columns can withstand strong organic solvents such as DMSO, DCM, ethyl acetate, MTBE, and THF, providing access to a wider range of mobile phases for method development.

Immobilized Amylose Phases

Amylose:



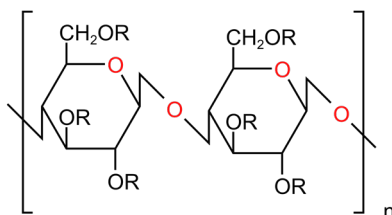
ShimOMNIA	Chiral iAmy-1	Chiral iAmy-2	Chiral iAmy-3	Chiral iAmy-4
Phase	 R: Amylose tris-(3,5-dimethylphenylcarbamate)	 R: Amylose tris-(3,5-dichlorophenylcarbamate)	 R: Amylose tris-(3-chlorophenylcarbamate)	 R: Amylose tris-(3-chloro-4-methylphenylcarbamate)
Similar to	Chiralpak IA, Lux Amylose-1	Chiralpak IE	Chiralpak ID	Chiralpak IF
Pore Size (nm)	100	100	100	100
Surface Area (m ² /g)	30	30	30	30
End Capping	No	No	No	No
pH Range	2 - 8			
USP Code	-	-	-	-

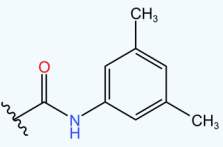
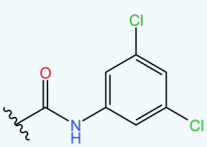
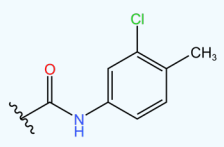
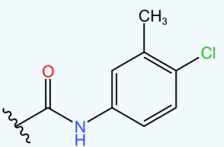
ShimOMNIA	Chiral iAmy-5
Phase	 R: Amylose tris-(3-chloro-5-methylphenylcarbamate)
Similar to	Chiralpak IG
Pore Size (nm)	100
Surface Area (m ² /g)	30
End Capping	No
pH Range	2 - 8
USP Code	-

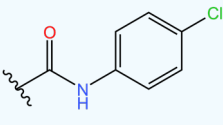
		Chiral iAmy-1	Chiral iAmy-2	Chiral iAmy-3	Chiral iAmy-4	Chiral iAmy-5
Particle Size (μm)	ID(mm)	4.6	4.6	4.6	4.6	4.6
	Length(mm)					
5	150	226-55935-01	226-55939-01	226-55938-01	226-55940-01	226-55941-01
	150	226-55935-02	226-55939-02	226-55938-02	226-55940-02	226-55941-02

Immobilized Cellulose Phases

Cellulose:



ShimOMNIA	Chiral iCel-1	Chiral iCel-2	Chiral iCel-4	Chiral iCel-7
Phase	 R: Cellulose tris-(3,5-dimethylphenylcarbamate)	 R: Cellulose tris-(3,5-dichlorophenylcarbamate)	 R: Cellulose tris-(3-chloro-4-methylphenylcarbamate)	 R: Cellulose tris-(4-chloro-3-methylphenylcarbamate)
Similar to	Chiralpak IB,	Chiralpak IC, Lux i-Cellulose-5		
Pore Size (nm)	100	100	100	100
Surface Area (m ² /g)	30	30	30	30
End Capping	No	No	No	No
pH Range	2 - 8			
USP Code	-	-	-	-

ShimOMNIA	Chiral iCel-8
Phase	 R: Cellulose tris-(4-chlorophenylcarbamate)
Similar to	
Pore Size (nm)	100
Surface Area (m ² /g)	30
End Capping	No
pH Range	2 - 8
USP Code	-

		Chiral iCel-1	Chiral iCel-2	Chiral iCel-4	Chiral iCel-7	Chiral iCel-8
Particle Size (μm)	ID(mm) Length(mm)	4.6	4.6	4.6	4.6	4.6
5	150	226-55936-01	226-55937-01	226-55944-01	226-55943-01	226-55942-01
	150	226-55936-02	226-55937-02	226-55944-02	226-55943-02	226-55942-02

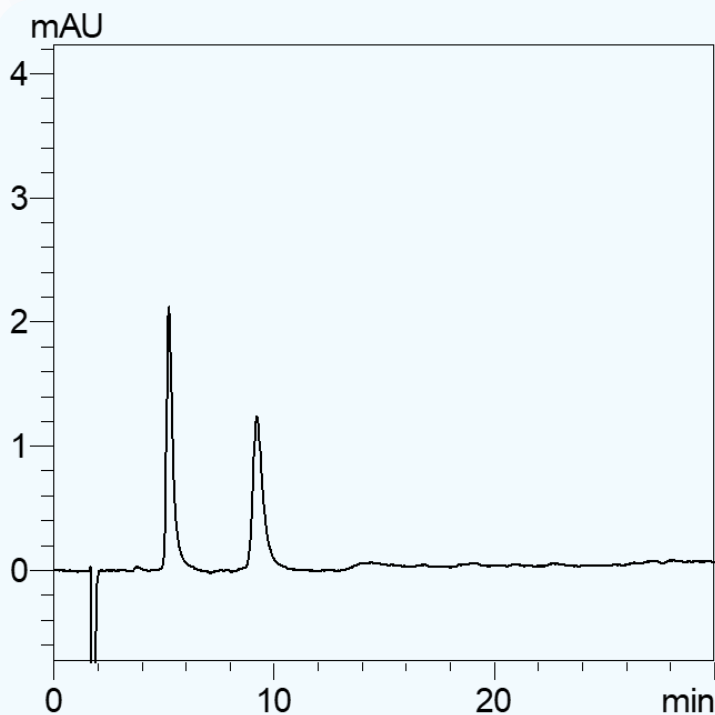
Protein-based Chiral Stationary Phases

ShimOMNIA	Chiral-AGP	Chiral-HSA
Phase	α 1-acid glycoprotein	Human serum albumin
Similar to	Chiralpak AGP	Chiralpak HSA
Pore Size (nm)	30	30
Surface Area (m ² /g)	100	100
End Capping	No	No
pH Range	2 - 8	
USP Code	L41	L79

ShimOMNIA Chiral-AGP

ShimOMNIA Chiral-AGP column features silica particles that are immobilized with α 1-acid glycoprotein. Optimization of retention and enantioselectivity can be achieved by adjusting the pH of the mobile phase, the buffer concentration, and the composition of organic modifiers. This column is appropriate for applications in reversed phase conditions.

ANALYSIS EXAMPLE



• CONDITIONS

Column : ShimOMNIA Chiral-AGP
 (150 mm x 4.0 mm I.D.,
 5 μ m)
 Mobile phase: Acetonitrile/0.1 M
 sodium acetate in water
 (2:98), pH 6.5
 Flow rate : 0.8 mL/min
 Sample : Galantamine
 Hydrobromide
 racemic reference
 standard.
 Detection : UV 230 nm

ShimOMNIA Chiral-HSA

ShimOMNIA Chiral-HSA columns are packed with spherical silica particles that are immobilized with human serum albumin. They are effective for separation of acidic, zwitterionic and neutral racemate. Retention and enantioselectivity can be optimized by adjusting the mobile phase pH, buffer concentration, and organic modifier composition. This column is also employed for rapid drug-protein binding studies. This column is suitable for use in reversed phases condition.

		Chiral-AGP	Chiral-HSA
Particle Size (μm)	ID(mm) Length(mm)	4.0	4.6
5	100	226-55945-01	
	150	226-55945-02	226-55947-01

Specialty Chiral Phases

ShimOMNIA	Chiral-TAG	Chiral-L-PhenylGlycine	Chiral-D-PhenylGlycine	Chiral-L-HydroxyProline	Chiral-iBT(+)	Chiral-iBT(-)
Phase	Teicoplanin aglycon	N-(3,5-dinitrobenzoyl)-L-phenylglycine	N-(3,5-dinitrobenzoyl)-D-Phenylglycine	L-Hydroxy-Proline	Proprietary brush type	Proprietary brush type
Similar to	Astec Chirobiotic TAG	Nucleosil Chiral-3	Nucleosil Chiral-2	Nucleosil Chiral-1, Chiralpak WH/ (MA+)		
Pore Size (nm)	10	10	10	10	10	10
Surface Area (m ² /g)	280	280	280	280	350	350
End Capping	No	No	No	No	No	No
pH Range	2 - 8					
USP Code	L63	L36	-	L32	-	-

ShimOMNIA Chiral-TAG

ShimOMNIA Chiral-TAG columns are packed with silica particles that are bonded with Teicoplanin Aglycon, which provides enhanced resolution of compounds including amino acids, amino alcohols, N-blocked amino acids, α-hydroxy acids, oxazolidinones, hydantoins, imides and diazepines.

ShimOMNIA Chiral-D/L-Phenyl Glycine

ShimOMNIA Chiral D-Phenyl Glycine and ShimOMNIA Chiral L-Phenyl Glycine columns are packed with silica particles bonded with N-(3,5-dinitrobenzoyl)-D-phenylglycine and N-(3,5-dinitrobenzoyl)-L-phenylglycine, respectively. These columns demonstrate exceptional capability in separating the enantiomers of herbicides, such as Fenoprop-methyl and Mecoprop-methyl. It is important to note that the ShimOMNIA Chiral D-Phenyl Glycine column will display an elution order that is opposite to that of the ShimOMNIA Chiral L-Phenyl Glycine column.

ShimOMNIA Chiral L-HydroxyProline

ShimOMNIA Chiral-L-Hydroxyproline columns are packed with silica particles that are bonded with L-hydroxyproline. These columns are ideal for separating enantiomers of various compounds, including Atrolactic acid, Mandelic acid, Lactic acid, Asparagine, Serine, Phenylalanine, Threonine, Proline, Histidine, Valine, Tyrosine, and Tryptophan. They operate under ligand exchange mode, with a typical eluent being a 2-10 mM CuSO₄ solution.

ShimOMNIA Chiral-iBT(+)/(-)

ShimOMNIA Chiral-iBT columns are packed with silica that features a proprietary brush-type ligand, which enables the effective separation of aromatic compounds containing nitrogen (N), oxygen (O), or sulfur (S) near the chiral center. These columns are particularly valuable for analyzing aromatic chiral compounds that contain amide, carbamate, alkylamine, and ester groups, including those with multiple stereogenic centers. The ShimOMNIA Chiral iBT(+) and ShimOMNIA Chiral iBT(-) columns complement each other by displaying opposite elution orders of enantiomers during analysis.

		Chiral TAG	Chiral L-PhenylGlycine		Chiral D-PhenylGlycine	
Particle Size (μm)	ID(mm) Length(mm)	4.6	4.0	4.6	4.0	4.6
5	150	226-55946-01				
	250	226-55946-02	226-55948-01	226-55949-01	226-55950-01	226-55951-01

		Chiral L-PhenylGlycine		Chiral-iBT(+)	Chiral-iBT(-)
Particle Size (μm)	ID(mm) Length(mm)	4.0	4.6	4.6	4.6
5	150			226-55954-01	226-55955-01
	250	226-55952-01	226-55953-01	226-55954-02	226-55955-02

Column Cross Reference Table

Shimadzu	Daicel	Phenomenex	YMC
<i>Coated Polysaccharide Phases</i>			
ShimOMNIA Chiral Amy-1	Chiralpak AD	Lux Amylose-1	Chiral Art Amylose-C Neo
ShimOMNIA Chiral Amy-4	Chiralpak AZ		
ShimOMNIA Chiral Amy-9	Chiralpak AY	Lux Amylose-2	
ShimOMNIA Chiral Amy-12	Chiralpak AS		
ShimOMNIA Chiral Cel-1	Chiralcel OD	Lux Cellulose-1	Chiral Art Cellulose-C
ShimOMNIA Chiral Cel-4	Chiralcel OZ	Lux Cellulose-2	
ShimOMNIA Chiral Cel-7	Chiralcel OX	Lux Cellulose-4	
ShimOMNIA Chiral Cel-10	Chiralcel OG		
ShimOMNIA Chiral Cel-11	Chiralcel OC		
ShimOMNIA Chiral Cel-13	Chiralcel OJ	Lux Cellulose-3	
ShimOMNIA Chiral Cel-14	Chiralcel OB		
<i>Immobilised Polysaccharide Phases</i>			
ShimOMNIA Chiral iAmy-1	Chiralpak IA	Lux i-Amylose-1	Chiral Art Amylose-SA
ShimOMNIA Chiral iAmy-2	Chiralpak IE		
ShimOMNIA Chiral iAmy-3	Chiralpak ID		
ShimOMNIA Chiral iAmy-4	Chiralpak IF		
ShimOMNIA Chiral iAmy-5	Chiralpak IG		
ShimOMNIA Chiral iCel-1	Chiralpak IB		Chiral Art Amylose-SB
ShimOMNIA Chiral iCel-2	Chiralpak IC	Lux i-Cellulose-5	Chiral Art Amylose-SC
ShimOMNIA Chiral iCel-4	Chiralpak IM		Chiral Art Cellulose-SZ
ShimOMNIA Chiral iCel-7			
ShimOMNIA Chiral iCel-8			
<i>Protein-based Phases</i>			
ShimOMNIA Chiral-AGP	Chiralpak AGP		
ShimOMNIA Chiral-HSA	Chiralpak HSA		
<i>Specialty Phases</i>			
ShimOMNIA Chiral TAG			
ShimOMNIA Chiral L-PhenylGlycine			
ShimOMNIA Chiral D-PhenylGlycine			
ShimOMNIA Chiral L-HydroxyProline	Chiralpak WH		
ShimOMNIA Chiral iBT(+)			
ShimOMNIA Chiral iBT(-)			



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