

Pick the **RIGHT**
CHIRAL COLUMN
The **FIRST** Time
EVERY Time
RISK-FREE*

See Inside for 3 Easy Ways



* See inside for complete 'risk-free' details.

phenomenex
...breaking with tradition™



3 Ways to Confidently Choose a Chiral Column

1. Match Your Compound's Functional Groups to Our Chiral Phases (pp. 6-7)

- ▶ Method and column selection from functional group index based on 100s of chiral compound screens

2. Search Your Compound's Structure or Name on Phenomenex.com (pp. 8-9)

- ▶ Application Structure Search
- ▶ Application Name Search

new

3. Submit Your Compound to Our PhenoLogix FREE Chiral Screening Services (p. 10)

Still can't find the optimal chiral column? Send in your compound and our dedicated team will screen it for you

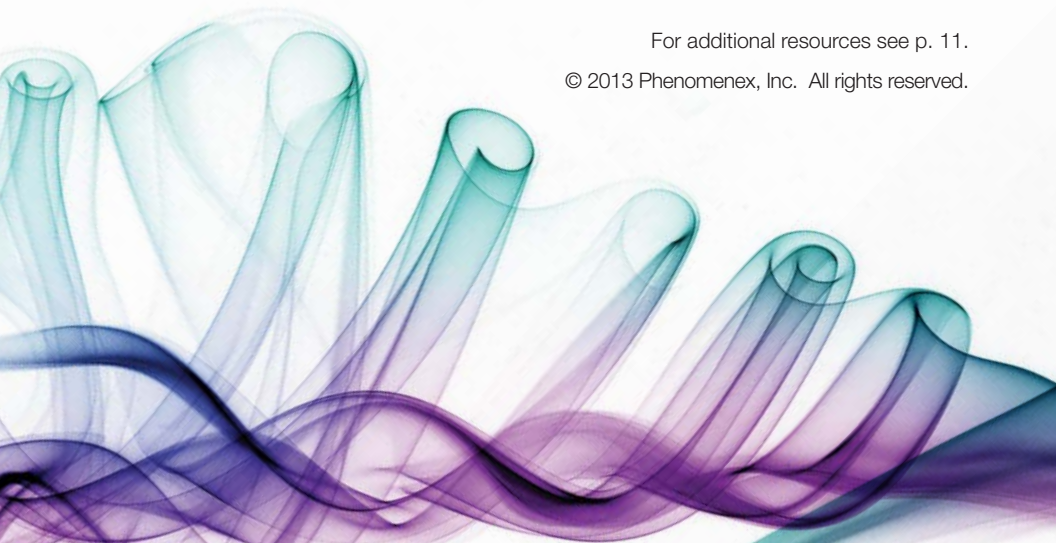
- ▶ Over 90 % Hit Ratio
- ▶ Easy Scale-Up for Preparative Purification

* RISK-FREE

If you order a Lux[®] analytical column (≤ 4.6 mm ID) based on the three steps in this guide and do not receive the promised separation, send in your comparative data within 45 days and keep the Lux column for FREE.

For additional resources see p. 11.

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Lux[®] Chiral Columns Will Resolve 92 % of Your Enantiomers*

Introducing Lux Polysaccharide-Based Chiral Phases

Lux Amylose-2 Amylose tris(5-chloro-2-methylphenylcarbamate)

Lux Cellulose-1 Cellulose tris(3,5-dimethylphenylcarbamate)

Lux Cellulose-2 Cellulose tris(3-chloro-4-methylphenylcarbamate)

Lux Cellulose-3 Cellulose tris(4-methylbenzoate)

Lux Cellulose-4 Cellulose tris(4-chloro-3-methylphenylcarbamate)

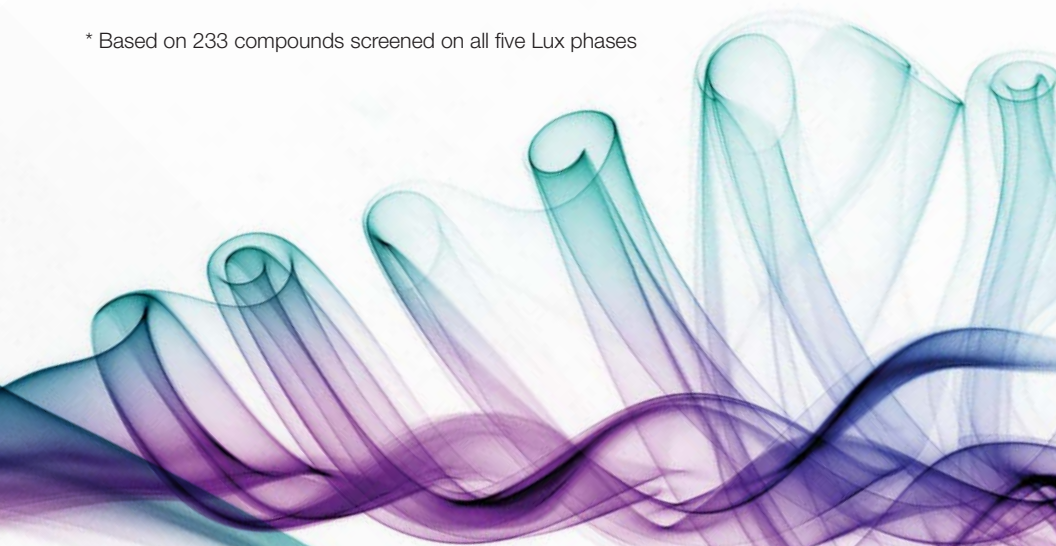
▶▶ Why choose a polysaccharide-based chiral column?

Polysaccharide-based chiral stationary phases (CSPs) such as Lux are the most widely used CSPs for the chromatographic separation of enantiomers.¹ A recent review pointed out that in 2007 more than 90 % of the HPLC methods used for the determination of enantiomeric excess were performed on polysaccharide-based chiral stationary phases.²

Learn more about each unique phase on pp. 4-5.

1. Chankvetadze, B. J. Chromatogr. A 2012, 1269, 26-51.
2. Ikai, T.; Okamoto, Y. Chem. Rev. 2009, 109, 6077-6101.

* Based on 233 compounds screened on all five Lux phases

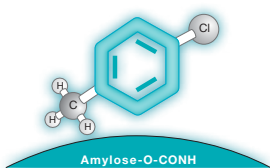


Five Unique Lux[®] Phases Will Meet Your Laboratory's Demands

- ▶ Stable in Normal Phase, Polar Organic, Reversed Phase, and SFC conditions
- ▶ 3 μm and 5 μm for packed columns (analytical, semi-preparative, and Axia[™]-packed preparative)
- ▶ 10 μm and 20 μm bulk media for scale-up (see p. 23 for more details)
- ▶ Pressure stable up to 300 bar
- ▶ High efficiency and high loading capacity

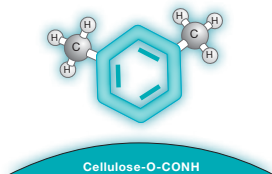


Many chiral screening groups use all 5 Lux phases on their primary screen to increase chances of locating the optimal enantiomeric separation.



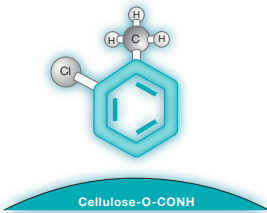
Lux Amylose-2

- ▶ Amylose tris(5-chloro-2-methylphenylcarbamate)
- ▶ Chlorinated amylose phase offers a broad range of selectivity



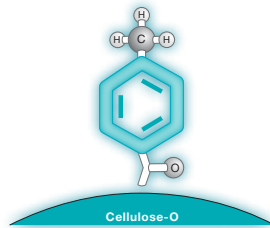
Lux Cellulose-1

- ▶ Cellulose tris(3,5-dimethylphenylcarbamate)
- ▶ Proven successful and universal Chiral Stationary Phase (CSP)



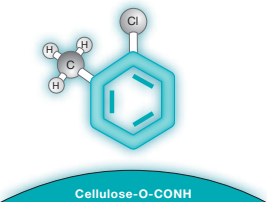
Lux[®] Cellulose-2

- ▶ Cellulose tris(3-chloro-4-methylphenylcarbamate)
- ▶ Unique chlorinated cellulose phase with complementary selectivity



Lux Cellulose-3

- ▶ Cellulose tris(4-methylbenzoate)
- ▶ Methylbenzoate is a diverse CSP compared to traditional selectors



Lux Cellulose-4

- ▶ Cellulose tris(4-chloro-3-methylphenylcarbamate)
- ▶ First-to-market chlorinated cellulose derivative offers unique chiral recognition abilities

Try any Lux phase

RISK-FREE

If you order a Lux analytical column (≤ 4.6 mm ID) based on the three steps in this guide and do not receive the promised separation, send in your comparative data within 45 days and keep the Lux column for FREE.

For additional Lux information please visit www.phenomenex.com/lux

Selecting Your Chiral Column

1. Functional Groups

Use the functional group index (pp. 12-21) to browse the selection of popular chiral compounds.

Step 1:

- ▶ Locate the class (A-G) that best represents your compound's primary functional group
- ▶ Select a subclass where necessary
- ▶ Browse through the chiral compounds to find a match or similar compound

The index table provides the Lux[®] phase used, the mode of chromatography, and the Application ID that is searchable at www.phenomenex.com/ChiralAppSearch

Example:

Functionality	Subclass	Chiral Compounds	Lux Phase	Mode	App ID
Class A: Amine derivatives RNH ₂ , R ₂ NH and R ₃ N	Amino-alcohol	Beta blocker drugs			
		acebutolol	Lux Amylose-2	NP	20084
		acebutolol	Lux Amylose-2	PO	18130

NP = Normal Phase

RP = Reversed Phase

PO = Polar Organic

A full list of successful applications for chiral compounds can be searched at www.phenomenex.com/ChiralAppSearch

Selecting Your Chiral Column

1. Functional Groups

Step 2:

Once you locate a match, type the App ID (or compound name) into the search field on **www.phenomenex.com/ChiralAppSearch** to receive:

- ▶ Chromatogram
- ▶ Running Conditions
- ▶ Detection Used
- ▶ Retention Times
- ▶ Selectivity (alpha value)
- ▶ Column Details (length, ID, particle size, part number, etc.)

The screenshot displays the Phenomenex ChiralAppSearch interface. At the top, there are navigation tabs: Site Search, Alternative Search Options, HPLC, GC, Sample Prep, Accessories, and Applications. Below these, there are two search methods: Application Search by Name and Search by Structure. The search bar under 'Application Search by Name' is highlighted with a red box. To the right of the search bar, it shows 'Filtering by: Phase: Chiral II (helical polymer)'. Below the search bar, there are several filter categories: Compound Class (all, Biopharmaceutical, Herbal and Oriental Medicine, Organic Chemical, Peptide, Pharmaceutical), Technique (all), Separation Mode (all), Column Phase (Chiral II (helical polymer)), and Compound Category (all). The 'Selected Application' section shows a chromatogram and details for Application ID: 20730, titled 'Lansoprazole on Lux Sum Cellulose-2 in PD Elution Mode'. It also lists the Separation Mode, Method, Brand (Lux), Description (Lux® Su Cellulose-2, LC Column 250 x 4.6 mm, Ea), and Part Number (00G-4457-EQ). Below this, it shows '958 Search Results' and a table of results. The table has columns for separation mode, title, and column. The first result is 'Chiral Chromatography' with the title 'Lansoprazole on Lux Sum Cellulose-2 in PD Elution Mode' and the column 'Lux® Su Cellulose-2, LC Column 250 x 4.6 mm, Ea'.

Selecting Your Chiral Column

2. Application Searches

A. Application Structure Search

(for novel compounds)

new

Ability to draw your compound and search for results based on sub-structure (aka functional group), exact match, or similar match.

Getting started:

- ▶ Visit **www.phenomenex.com/ChiralStructureSearch**
- ▶ Draw your compound (or functional groups)
- ▶ Click on of the following “Match Compounds” options and click Search

TIP

Do you have a structure drawn out?
You can copy and paste compound structures
into this search field.

Search

Steps: Draw Structure, Match Compounds, View Applications

Molecular Weight: 223.6981

Formula: C₁₂H₁₄ClON

Match Compounds

Sub-Structure

Exact Match

Similar

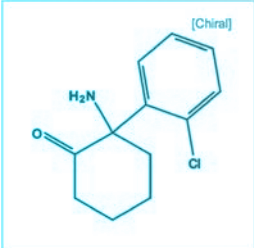
Search

Selecting Your Chiral Column


2. Application Searches

A. Application Structure Search *(continued)*

Filter Results: --Select Technique-- | --Select Separation Mode-- | --Select Phase--



1 Matching Compound Results

CID	Name	Formula	Mol. Weight	View Applications
123767	Norketamine	C ₁₂ H ₁₄ NOCl	223.70	

Filter results:

- ▶ Select “HPLC” and “Chiral Chromatography” in the respective drop-down menus and then click the blue arrow
- ▶ View the relevant applications and pinpoint the one that fits your needs

B. Application Name Search *(for known compounds)*

Over a thousand chiral applications and growing.

How to navigate:

- ▶ Visit **www.phenomenex.com/ChiralAppSearch** (pre-filtered for Lux[®] applications)
- ▶ Input the Application ID or compound name into the search field
- ▶ Scan through the results to find your match

Selecting Your Chiral Column

3. PhenoLogix

Join other chiral chromatographers from around the world who have achieved success with our in-house screening services.

FREE Chiral Screening Services

- ▶ Rapid 10 Day Screening From Receipt of Samples
- ▶ Screen All 5 Lux® Phases in Normal Phase, Reversed Phase, and Polar Organic Modes
- ▶ Over 90% Hit Ratio
- ▶ Detailed Report
- ▶ Easy Method Transfer
- ▶ Confidentiality Agreements Accepted Upon Request

Preparative and Process Scale-Up

- ▶ Media Screening
- ▶ Small Scale Purification
- ▶ DAC Packing Assistance

Simply visit **www.phenomenex.com/ChiralScreening** to submit your application today.

“ We requested two different chiral compounds be separated and purified. We received the first set of compounds at 99% e.e. within a week and the second set in 2 weeks, also at greater than 99% e.e. The second set was a difficult separation. We were very happy with the quality of the separation and the quick turnaround, which was tantamount. [PhenoLogix] did a great job of informing me on the progress and chemistry/separation issues that arose. I have recommended this service to other colleagues in the Pharmaceutical and BioTech industry here in San Diego and I look forward to using them again. ”

Researcher – Celgene Corporation, San Diego, California

Selecting Your Chiral Column

More Resources

Visit www.phenomenex.com/Lux to:

- ▶ Request Free Chiral Method Development Poster
- ▶ Download Multiple Technical Notes
- ▶ Download Lux Brochures
- ▶ Download Lux Care and Use Notes
- ▶ Access Chiral Structure Search
- ▶ Access Chiral Application Search

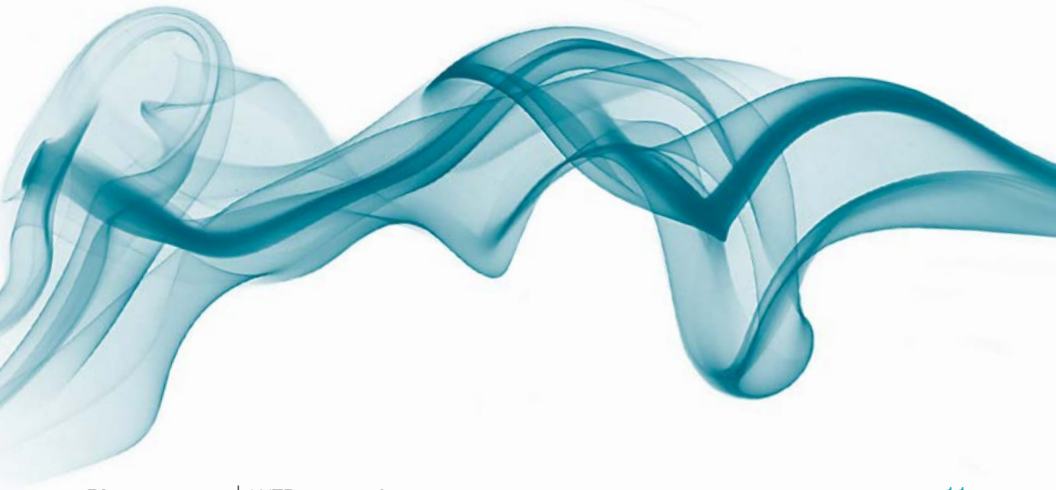
All applications associated with our growing library are viewable online at www.phenomenex.com/ChiralAppSearch



Lux columns are interchangeable between normal phase, polar organic, reversed phase, and SFC modes with a simple solvent switch. Refer to Lux Care and Use Notes for more information.

Lux Method Development Kits

Available in 2, 3, 4, or 5 column kits. Please contact your local Technical Consultant to customize your kit and receive pricing.



Functional Group Index

Functionality	Subclass	Chiral Compounds	Lux Phase	Mode	App ID		
Class A: Amine derivatives RNH_2, R_2NH and R_3N	Phenyl methyl pyridyl	Anti-allergic drugs					
		bromopheniramine	Lux Amylose-2	NP	20082		
		carbinoxamine	Lux Amylose-2	NP	20452		
		chlorpheniramine	Lux Amylose-2	NP	20445		
		dimetindene	Lux Cellulose-1	NP	20435		
		dimetindene	Lux Cellulose-3	RP	20300		
		doxylamine	Lux Cellulose-4	NP	20346		
		doxylamine	Lux Cellulose-4	RP	20170		
		mirtazapine	Lux Cellulose-2	PO	20067		
		mirtazapine	Lux Cellulose-4	NP	20425		
		pheniramine	Lux Cellulose-3	NP	20429		
		$ \begin{array}{ccc} \text{H} & & \text{R} \\ & & \\ \text{R}-\text{N} & & \text{R}-\text{N} \\ & & \\ \text{H} & & \text{H} \end{array} \qquad \begin{array}{ccc} & & \text{R} \\ & & \\ & & \text{R}-\text{N} \\ & & \\ & & \text{R} \end{array} $					
		Class B: Acid derivatives RCO_2H	Acids	Anti-inflammatory drugs			
carprofen	Lux Cellulose-1			RP	20278		
carprofen	Lux Cellulose-3			NP	20440		
etodolac	Lux Cellulose-3			RP	20324		
fenopropfen	Lux Amylose-2			NP	20453		
fenopropfen	Lux Cellulose-3			RP	20309		
ibuprofen	Lux Cellulose-2			NP	20274		
ibuprofen	Lux Cellulose-3			RP	20310		
indoprofen	Lux Amylose-2			NP	20510		
indoprofen	Lux Cellulose-3			RP	20296		
ketoprofen	Lux Cellulose-3			NP	20099		
ketorolac	Lux Amylose-2			NP	20091		
ketorolac	Lux Cellulose-2			RP	20277		
ketorolac	Lux Cellulose-3			PO	20367		
suprofen	Lux Cellulose-3			NP	20098		
suprofen	Lux Cellulose-3			RP	20294		
$ \begin{array}{c} \text{O} \\ \\ \text{C}-\text{O}-\text{H} \\ \\ \text{R} \end{array} $							

Functional Group Index



Functionality	Subclass	Chiral Compounds	Lux Phase	Mode	App ID	
Class B: Acid derivatives RCO_2H $\begin{array}{c} \text{O} \\ \parallel \\ \text{C} - \text{O} - \text{H} \\ / \\ \text{R} \end{array}$	N-protected amino acids	FMOC amino acids				
		FMOC-Ala-OH	Lux Cellulose-1	NP	20561	
		FMOC-Ala-OH	Lux Cellulose-3	RP	20334	
		FMOC-Ile-OH	Lux Cellulose-3	NP	20389	
		FMOC-Ile-OH	Lux Cellulose-4	RP	20179	
		FMOC-Leu-OH	Lux Cellulose-3	NP	20388	
		FMOC-Leu-OH	Lux Cellulose-4	RP	20168	
		FMOC-Lys-(boc)-OH	Lux Cellulose-1	NP	20479	
		FMOC-Lys-(boc)-OH	Lux Cellulose-3	PO	20366	
		FMOC-Lys-(boc)-OH	Lux Cellulose-3	RP	20318	
		FMOC-Pro-OH	Lux Cellulose-2	NP	20409	
		FMOC-Pro-OH	Lux Cellulose-2	PO	20354	
		FMOC-Pro-OH	Lux Cellulose-4	RP	20151	
		FMOC-Trp-OH	Lux Cellulose-4	NP	20540	
		FMOC-Ser-OH	Lux Cellulose-3	RP	20336	
		FMOC-Ser-OH	Lux Cellulose-4	NP	20416	
		Others	abscisic acid	Lux Cellulose-1	NP	20557
			abscisic acid	Lux Cellulose-3	RP	20313
	flumequine		Lux Cellulose-2	RP	20141	
	proglumide		Lux Cellulose-2	NP	20407	
proglumide	Lux Cellulose-4		RP	20187		
Class C: Amide and imide derivatives RNHCOR $\begin{array}{c} \text{O} \\ \parallel \\ \text{R} - \text{N} - \text{R} \\ \\ \text{H} \end{array}$	Amide	Anesthetic drugs				
		bupivacaine	Lux Cellulose-2	NP	20272	
		bupivacaine	Lux Cellulose-3	RP	20286	
		prilocaine	Lux Amylose-3	NP	20081	
	Benzodiazepine	Tranquilizing drugs				
		oxazepam	Lux Cellulose-1	PO	20283	
		oxazepam	Lux Cellulose-1	RP	20232	
		temazepam	Lux Cellulose-1	RP	20236	

Functional Group Index


Functionality	Subclass	Chiral Compounds	Lux Phase	Mode	App ID		
Class C: Amide and imide derivatives RNHCOR	Imide	aminoglutethimide	Lux Cellulose-1	PO	20069		
		aminoglutethimide	Lux Cellulose-3	NP	20107		
		aminoglutethimide	Lux Cellulose-4	RP	20169		
		tesicam	Lux Cellulose-4	RP	20189		
		thalidomide	Lux Amylose-2	NP	20507		
		thalidomide	Lux Cellulose-2	RP	20239		
		Hydantoin	Anticonvulsant drugs	hydroxyphenytoin	Lux Cellulose-3	RP	20288
			mephenytoin	Lux Amylose-2	NP	20526	
			mephenytoin	Lux Cellulose-1	NP	20250	
			mephenytoin	Lux Cellulose-1	RP	20224	
	mephenytoin		Lux Cellulose-2	NP	20061		
	mephenytoin		Lux Cellulose-3	NP	20428		
	mephenytoin		Lux Cellulose-3	RP	20326		
	mephenytoin		Lux Cellulose-4	NP	20157		
	mephenytoin		Lux Cellulose-4	RP	20184		
	Barbiturate		hexobarbital	Lux Amylose-2	NP	20095	
	hexobarbital	Lux Cellulose-2	RP	20218			
	Others	bucetin	Lux Amylose-2	NP	20519		
		bucetin	Lux Cellulose-1	RP	20137		
		bucetin	Lux Cellulose-4	PO	20378		
		cisapride	Lux Cellulose-2	NP	20497		
		cisapride	Lux Cellulose-2	PO	20280		
		cisapride	Lux Cellulose-2	RP	20243		
		chlormezanone	Lux Cellulose-1	NP	20485		
		chlormezanone	Lux Cellulose-3	PO	20371		
		chlormezanone	Lux Cellulose-3	RP	20332		
		midodrine	Lux Cellulose-2	NP	20121		
milnacipran		Lux Cellulose-2	NP	20412			
milnacipran		Lux Cellulose-2	RP	20227			
naproamide		Lux Cellulose-1	RP	20246			
naproamide		Lux Cellulose-3	NP	20467			





Functional Group Index

Functionality	Subclass	Chiral Compounds	Lux Phase	Mode	App ID	
Class C: Amide and imide derivatives RNHCOR 	Others	proglumide	Lux Cellulose-2	NP	20407	
		proglumide	Lux Cellulose-4	RP	20187	
		tropicamide	Lux Cellulose-2	NP	20122	
		tropicamide	Lux Cellulose-2	RP	20241	
		tropicamide	Lux Cellulose-4	NP	20160	
Class D: N-heterocycle derivatives 	Dihydropyridine	Channel blocker drugs				
		amlodipine	Lux Cellulose-4	PO	20358	
		felodipine	Lux Cellulose-3	RP	20307	
		isradipine	Lux Amylose-2	NP	20089	
		nicardipine	Lux Cellulose-1	NP	20075	
		nisoldipine	Lux Cellulose-1	NP	20276	
		Imidazole and triazole	Antifungal drugs			
			bifonazole	Lux Cellulose-2	NP	20506
			bifonazole	Lux Cellulose-3	RP	20333
			econazole	Lux Cellulose-3	NP	20110
	econazole		Lux Cellulose-3	PO	20368	
	econazole		Lux Cellulose-3	RP	20325	
	enilconazole		Lux Cellulose-2	PO	20068	
	enilconazole		Lux Cellulose-4	NP	20427	
	ketoconazole		Lux Cellulose-1	PO	20353	
	miconazole		Lux Cellulose-3	NP	20129	
	miconazole		Lux Cellulose-3	RP	20290	
	ornidazole		Lux Amylose-2	NP	20530	
	sulconazole		Lux Cellulose-2	NP	20126	
	sulconazole		Lux Cellulose-3	RP	20298	
	sulconazole		Lux Cellulose-4	PO	20375	
	tetramisole		Lux Cellulose-2	NP	20127	
	tetramisole		Lux Cellulose-2	PO	20284	
	tetramisole	Lux Cellulose-2	RP	20238		
	voriconazole	Lux Cellulose-2	PO	20356		
	voriconazole	Lux Cellulose-4	NP	20421		

Functional Group Index

Functionality	Subclass	Chiral Compounds	Lux Phase	Mode	App ID
Class D: N-heterocycle derivatives 	Benzimidazole	Antiulcer drugs			
		lansoprazole	Lux Cellulose-2	NP	20498
		lansoprazole	Lux Cellulose-4	RP	20182
		omeprazole	Lux Cellulose-1	NP	20564
		omeprazole	Lux Cellulose-4	RP	20186
		pantoprazole	Lux Cellulose-4	NP	20420
	Atropine derivative	rabeprazole	Lux Cellulose-4	RP	19716
		atropine	Lux Cellulose-2	NP	20123
	Phenothiazine	homatropine	Lux Cellulose-1	RP	20219
		ethopropazine	Lux Cellulose-3	PO	20362
		ethopropazine	Lux Cellulose-3	RP	20303
		promethazine	Lux Cellulose-3	RP	20306
	Morpholine	propiomazine	Lux Cellulose-3	PO	20556
		aprepitant	Lux Cellulose-4	PO	19638
		molindone	Lux Amylose-2	NP	20092
		molindone	Lux Cellulose-3	RP	20328
		reboxetine	Lux Cellulose-1	NP	20056
		reboxetine	Lux Cellulose-2	RP	20235
	Indole	Beta blocker drugs			
		bopindolol	Lux Cellulose-4	RP	20173
		carazolol	Lux Cellulose-2	NP	20117
		carvedilol	Lux Cellulose-4	NP	20422
		pindolol	Lux Cellulose-1	RP	20198
		pindolol	Lux Cellulose-2	NP	20125
		Anti-inflammatory drugs			
		carprofen	Lux Cellulose-1	RP	20278
		carprofen	Lux Cellulose-3	NP	20385
etodolac		Lux Cellulose-1	NP	20440	
etodolac		Lux Cellulose-3	RP	20324	

Functional Group Index

Functionality	Subclass	Chiral Compounds	Lux Phase	Mode	App ID
Class D: N-heterocycle derivatives 	Quinoline	laudanosine	Lux Cellulose-2	NP	20495
		laudanosine	Lux Cellulose-4	RP	20183
		methaqualone	Lux Amylose-2	NP	20516
		methaqualone	Lux Cellulose-3	PO	20555
		methaqualone	Lux Cellulose-3	RP	20311
		metofoline	Lux Cellulose-1	PO	20070
		metofoline	Lux Cellulose-2	NP	20064
		metofoline	Lux Cellulose-3	RP	20330
		nomifensine	Lux Cellulose-3	NP	20395
		nomifensine	Lux Cellulose-3	RP	20329
		praziquantel	Lux Cellulose-4	NP	20542
		praziquantel	Lux Cellulose-4	RP	20147
		primaquine	Lux Cellulose-1	NP	20404
		Class E: Alcohol, ether and epoxide ROH and ROR 	Alcohols	1-phenyl-1-propanol	Lux Cellulose-1
1-phenylethanol	Lux Cellulose-1			RP	20134
3-methyl-2-phenyl-pentan-1-ol	Lux Cellulose-3			NP	20384
benzoin	Lux Cellulose-1			RP	20207
benzoin	Lux Cellulose-2			NP	20116
bucetin	Lux Amylose-2			NP	20519
bucetin	Lux Cellulose-1			RP	20137
Diols	bucetin		Lux Cellulose-4	PO	20378
	methocarbamol		Lux Cellulose-2	NP	20260
	methocarbamol		Lux Cellulose-3	RP	20322
	mephesisin		Lux Cellulose-1	RP	20223
	mephesisin		Lux Cellulose-4	NP	20348
	nadolol		Lux Cellulose-1	PO	17424
	Chiral epoxides		trans-Stilbene oxide	Lux Amylose-2	NP
trans-Stilbene oxide		Lux Amylose-2	PO	20455	
trans-Stilbene oxide		Lux Cellulose-1	PO	20441	
trans-Stilbene oxide		Lux Cellulose-2	PO	20444	
trans-Stilbene oxide		Lux Cellulose-3	PO	20457	
trans-Stilbene oxide		Lux Cellulose-4	PO	20456	

Functional Group Index

Functionality	Subclass	Chiral Compounds	Lux Phase	Mode	App ID		
Class E: Alcohol, ether and epoxide ROH and ROR $\text{R}-\text{OH}$ and $\text{R}-\text{O}-\text{R}'$	Ether	4-Phenyl-1,3-dioxane	Lux Cellulose-1	RP	20135		
		4-Phenyl-1,3-dioxane	Lux Cellulose-3	NP	20382		
		4-Phenyl-1,3-dioxane	Lux Cellulose-3	PO	20363		
		Anti-allergic drugs	carbinoxamine	Lux Amylose-2	NP	20452	
		Antifungal drugs	ketoconazole	Lux Cellulose-1	PO	20353	
		Beta blocker drugs	propranolol	Lux Cellulose-1	NP	20477	
			propranolol	Lux Cellulose-3	RP	20308	
Class F: Ketone and ester RCOR $\text{R}-\overset{\text{O}}{\parallel}{\text{C}}-\text{R}'$ and $\text{R}-\overset{\text{O}}{\parallel}{\text{C}}-\text{OR}'$	Ketones	Anti-inflammatory drugs	ketoprofen	Lux Cellulose-3	NP	20099	
		ketorolac	Lux Amylose-2	NP	20091		
		ketorolac	Lux Cellulose-2	RP	20277		
		ketorolac	Lux Cellulose-3	PO	20367		
		suprofen	Lux Cellulose-3	NP	20098		
		suprofen	Lux Cellulose-3	RP	20294		
		Anti-allergic drugs	methadone	Lux Cellulose-2	NP	18456	
		methadone	Lux Cellulose-4	NP	19698		
		Amino ketone	ketamine	Lux Cellulose-3	NP	20112	
		ketamine	Lux Cellulose-4	RP	20287		
		norketamine	Lux Cellulose-3	NP	20131		
		norketamine	Lux Cellulose-3	RP	20337		
		Coumarin	Anticoagulant drugs	warfarin	Lux Amylose-2	NP	20508
			warfarin	Lux Cellulose-3	PO	20360	
			warfarin	Lux Cellulose-3	RP	20295	
Benzopyranone	flavanone	Lux Cellulose-1	PO	20373			
	naringenin	Lux Cellulose-4	NP	20162			

Functional Group Index

Functionality	Subclass	Chiral Compounds	Lux Phase	Mode	App ID		
Class F: Ketone and ester RCOR	Ester	Beta blocker drugs					
		bopindolol	Lux Cellulose-4	RP	20173		
$\begin{array}{c} \text{O} \\ \parallel \\ \text{R}-\text{C}-\text{R}' \end{array}$ and $\begin{array}{c} \text{O} \\ \parallel \\ \text{R}-\text{C}-\text{OR}' \end{array}$	Amino ester	Calcium channel blocker					
		esmolol	Lux Cellulose-1	NP	20403		
Class G: Other	Cyano	Muscarinic Antagonists					
		amlodipine (see Dihydropyridine)	Lux Cellulose-4	PO	20358		
		cyclopentolate	Lux Amylose-2	NP	20531		
		etozolin	Lux Cellulose-2	NP	20504		
		etozolin	Lux Cellulose-3	RP	20331		
		homatropine	Lux Cellulose-1	RP	20219		
		mebeverine	Lux Cellulose-1	NP	20482		
		mebeverine	Lux Cellulose-2	RP	20222		
		citalopram	Lux Cellulose-4	NP	20424		
		verapamil	Lux Cellulose-3	NP	20114		
		Alkyne	Antiulcer drugs				
			oxybutyn	Lux Cellulose-3	RP	20289	
			Nitro	nicardipine	Lux Cellulose-1	NP	20075
				ornidazole	Lux Amylose-2	NP	20530
Sulfoxide	Anti-Anxiety Agents						
	lansoprazole		Lux Cellulose-2	NP	20498		
	lansoprazole		Lux Cellulose-4	RP	20182		
	omeprazole		Lux Cellulose-1	NP	20564		
	omeprazole (for more see Benzimidazole)		Lux Cellulose-4	RP	20186		
Sulfone	chlormezanone		Lux Cellulose-1	NP	20485		
	chlormezanone		Lux Cellulose-3	PO	20371		
	chlormezanone		Lux Cellulose-3	RP	20332		
Sulfonamide	althiazide		Lux Cellulose-1	RP	20136		
	bendroflumethiazide		Lux Cellulose-2	NP	20490		

Functional Group Index

Functionality	Subclass	Chiral Compounds	Lux Phase	Mode	App ID	
Class G: Other		bendroflumethiazide	Lux Cellulose-3	RP	20073	
		cyclothiazide	Lux Cellulose-1	NP	20560	
		indapamide	Lux Cellulose-1	NP	20563	
		indapamide	Lux Cellulose-1	RP	20221	
		metolazone	Lux Cellulose-1	RP	20195	
		metolazone	Lux Cellulose-3	PO	20369	
		trichloromethiazide	Lux Cellulose-4	NP	20352	
	Non-aromatic	cyclophosphamide hydrate	Lux Amylose-2	NP	20523	
		cyclophosphamide hydrate	Lux Cellulose-3	RP	20321	
		hexobarbital	Lux Amylose-2	NP	20095	
		hexobarbital	Lux Cellulose-2	RP	20218	
	Chiral organic compounds with axial and planar chirality		1,1-Dihydroxy-6,6-Dimethylbiphenyl	Lux Cellulose-3	RP	20302

Lux[®] Ordering Information

3 µm Analytical Columns (mm)							SecurityGuard™ Cartridges (mm)	
Phases	50 x 2.0	150 x 2.0	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	4 x 2.0*	4 x 3.0*
Cellulose-1	00B-4458-B0	00F-4458-B0	00B-4458-E0	00D-4458-E0	00F-4458-E0	00G-4458-E0	/10pk	/10pk
Cellulose-2	00B-4456-B0	00F-4456-B0	00B-4456-E0	00D-4456-E0	00F-4456-E0	00G-4456-E0	AJO-8398	AJO-8366
Cellulose-3	00B-4492-B0	00F-4492-B0	00B-4492-E0	00D-4492-E0	00F-4492-E0	00G-4492-E0	AJO-8621	AJO-8622
Cellulose-4	00B-4490-B0	00F-4490-B0	00B-4490-E0	00D-4490-E0	00F-4490-E0	00G-4490-E0	AJO-8626	AJO-8627
Amylose-2	00B-4471-B0	00F-4471-B0	00B-4471-E0	00D-4471-E0	00F-4471-E0	00G-4471-E0	AJO-8471	AJO-8470

for ID: 2.0–3.0 mm 3.2–8.0 mm

5 µm Analytical Columns (mm)						SecurityGuard Cartridges (mm)	
Phases	50 x 2.0	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	4 x 2.0*	4 x 3.0*
Cellulose-1	00B-4459-B0	00B-4459-E0	00D-4459-E0	00F-4459-E0	00G-4459-E0	/10pk	/10pk
Cellulose-2	00B-4457-B0	00B-4457-E0	00D-4457-E0	00F-4457-E0	00G-4457-E0	AJO-8398	AJO-8366
Cellulose-3	00B-4493-B0	00B-4493-E0	00D-4493-E0	00F-4493-E0	00G-4493-E0	AJO-8621	AJO-8622
Cellulose-4	00B-4491-B0	00B-4491-E0	00D-4491-E0	00F-4491-E0	00G-4491-E0	AJO-8626	AJO-8627
Amylose-2	00B-4472-B0	00B-4472-E0	00D-4472-E0	00F-4472-E0	00G-4472-E0	AJO-8471	AJO-8470

for ID: 2.0–3.0 mm 3.2–8.0 mm

* SecurityGuard Analytical Cartridges require holder, Part No. : KJO-4282

The polysaccharide-based CSPs are frequently used for preparative purifications because they are easily scaled-up from the analytical separations.³

RISK-FREE

If you order a Lux analytical column (≤ 4.6 mm ID) based on the three steps in this guide and do not receive the promised separation, send in your comparative data within 45 days and keep the Lux column for FREE.



3. Francotte, E. J. Chromatogr. A 2001, 906, 379-397.

Lux[®] Ordering Information

5 µm Semi-Prep Columns (mm)			SecurityGuard™ Cartridges (mm)
Phases	150 x 10.0	250 x 10.0	10 x 10.0†
			/3pk
Cellulose-1†	00F-4459-NO	00G-4459-NO	AJO-8404
Cellulose-2†	00F-4457-NO	00G-4457-NO	AJO-8399
Cellulose-3	00F-4493-NO	00G-4493-NO	AJO-8623
Cellulose-4	00F-4491-NO	00G-4491-NO	AJO-8628
Amylose-2	00F-4472-NO	00G-4472-NO	AJO-8472

for ID: 9–16 mm



† Inquire for Lux 10 µm Cellulose-1 and Cellulose-2 columns

‡ SemiPrep SecurityGuard Cartridges require holder, Part No.: AJO-7220

5 µm Axia™ Packed Preparative Columns (mm)					SecurityGuard Cartridges (mm)	
Phases	150 x 21.2	250 x 21.2	250 x 30	250 x 50	15 x 21.2**	15 x 30.0*
					/ea	/ea
Cellulose-1†	00F-4459-PO-AX	00G-4459-PO-AX	00G-4459-UO-AX	00G-4459-V0-AX	AJO-8405	AJO-8406
Cellulose-2†	00F-4457-PO-AX	00G-4457-PO-AX	00G-4457-UO-AX	00G-4457-V0-AX	AJO-8400	AJO-8401
Cellulose-3	00F-4493-PO-AX	00G-4493-PO-AX	00G-4493-UO-AX	00G-4493-V0-AX	AJO-8624	AJO-8625
Cellulose-4	00F-4491-PO-AX	00G-4491-PO-AX	00G-4491-UO-AX	00G-4491-V0-AX	AJO-8629	AJO-8630
Amylose-2	00F-4472-PO-AX	00G-4472-PO-AX	00G-4472-UO-AX	00G-4472-V0-AX	AJO-8473	AJO-8474

for ID: 18–29 mm 30–49 mm

† Inquire for Lux 10 µm Cellulose-1 and Cellulose-2 columns

** HPLC PREP SecurityGuard Cartridges require holder, Part No. : AJO-8223

SFC PREP SecurityGuard Cartridges require holder, Part No. : AJO-8617

* HPLC PREP SecurityGuard Cartridges require holder, Part No. : AJO-8277

SFC PREP SecurityGuard Cartridges require holder, Part No. : AJO-8618

Bulk Media		
Phases	100 g	1 kg
10 µm		
Cellulose-1	04G-4501	04K-4501
Cellulose-2	04G-4502	04K-4502
20 µm		
Cellulose-1	04G-4473	04K-4473
Cellulose-2	04G-4464	04K-4464
Cellulose-3	04G-4504	04K-4504
Cellulose-4	04G-4503	04K-4503

Please inquire for 20 µm Lux Amylose-2 media



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Trademarks

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Disclaimer

Axia is patented by Phenomenex. U.S. Patent No. 7,674,383

SecurityGuard is patented by Phenomenex. U.S. Patent No. 6,162,362

CAUTION: this patent only applies to the analytical-sized guard cartridge holder, and does not apply to SemiPrep, PREP or ULTRA holders, or to any cartridges.

The opinions stated herein are solely those of the speaker and not necessarily those of any company or organization.

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Chiral Column Selection Guide

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