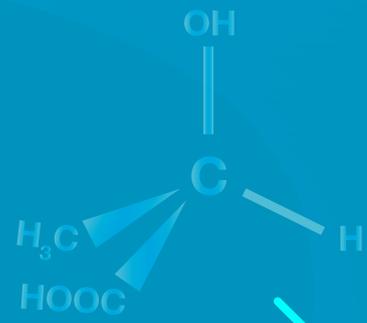


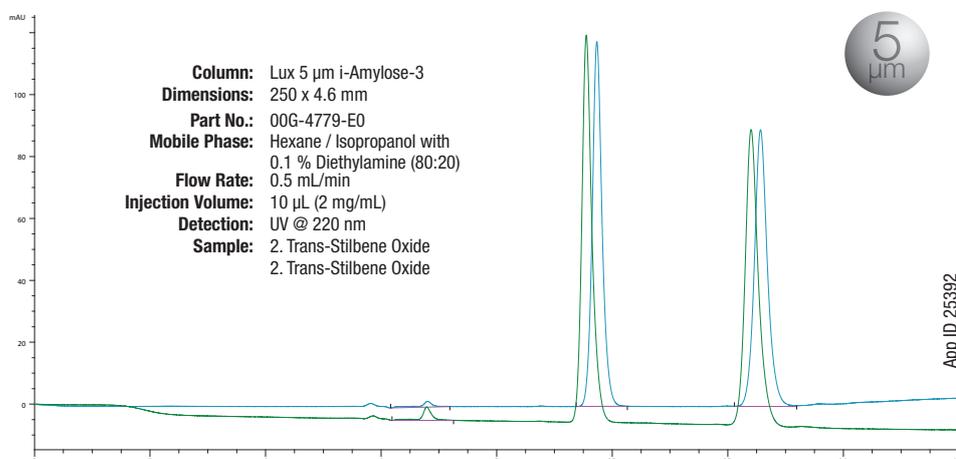
Lux Polysaccharide Chiral Columns
Immobilized Application eBook

Enantioselective
Dependable
Affordable



Immobilized Strong Solvent Stability

The immobilization and bonding technology used within the Lux i-Amylose-3 promotes column stability in strong organic solvents, which affords you the ability to expand your chiral separation success with more solvent systems and separations modes.



■ Before Exposure Strong Solvents (DCM & THF)*
 ■ After Exposure

*Aggressive solvent stability was tested by flushing columns with DCM followed by THF before rerunning in Mobile Phase.

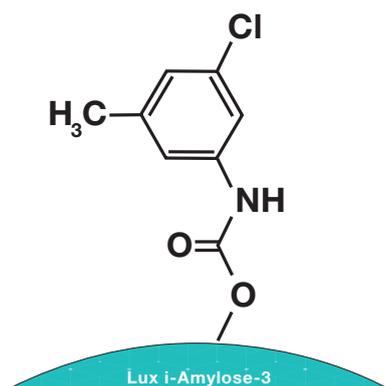
Solve compound solubility issues by loading in strong organic solvents for preparative purifications on extremely robust Lux i-Amylose-3, i-Cellulose-5 and i-Amylose-1 AXIA™ packed columns.



Immobilized Polysaccharide Newest Phase Highlight

Lux i-Amylose-3
3 and 5 µm

Monosized particles grafted with linear polysaccharide chains to envelop and separate enantiomers



Amylose tris(3-chloro-5-methylphenylcarbamate)

The Lux i-Amylose-3 chiral selector is a complementary but distinct chiral selectivity in comparison to i-Amylose-1 and i-Cellulose-5. It combines the 5-position methyl group of the i-Amylose-1 chiral selector with the electron-withdrawing potential of the 3-position chlorine group of the i-Cellulose-5.

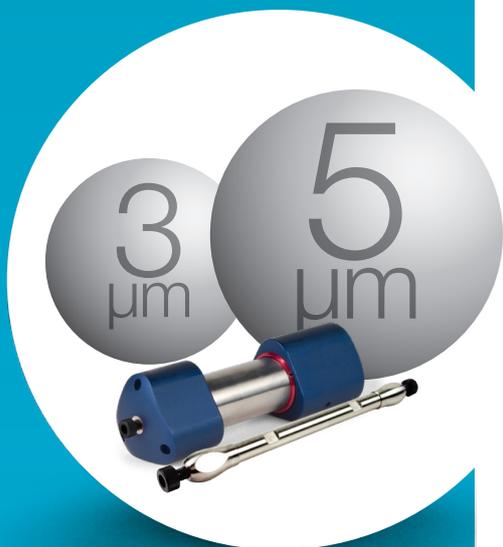
Advanced Strong Solvent Stability

Tip

We Suggest Initially Screening All Three Immobilized Lux Phases Because of Greater Solvent Flexibility

Demystifying Chirality

Lux Immobilized Application eBook



Lux i-Amylose-3 Applications:

[Chiral Separation of Chlormezanone Under Polar Organic Conditions](#)

[Chiral Separation of Thalidomide Under Polar Organic Conditions](#)

[Chiral Separation of Diniconazole Under Reversed Phase Conditions](#)

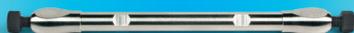
[Chiral Separation of Epoxiconazole Under Reversed Phase Conditions](#)

[Chiral Separation of Paclobutrazol Under Reversed Phase Conditions](#)

[Chiral Separation of Oxybutynin Under Normal Phase Conditions](#)

Why Choose Lux Chiral Columns?

- Broad enantioselectivity from multiple interaction mechanisms
- Stable in normal phase, polar organic, SFC, and reversed phase conditions
- 3 μm and 5 μm packed columns
- Pressure stable up to 300 bar
- High efficiency and loading capacity



Lux i-Cellulose-5 Applications:

[Chiral Separation of Atomoxetine Under Normal Phase Conditions](#)

[Chiral Separation of Zopiclone Under Reversed Phase Conditions](#)

[Chiral Separation of Guaifenesin Under Normal Phase Conditions](#)

Lux i-Amylose-1 Applications:

[Chiral Separation of Naproxen Under Normal Phase Conditions](#)

[Chiral Separation of Lorazepam Under Normal Phase Conditions](#)

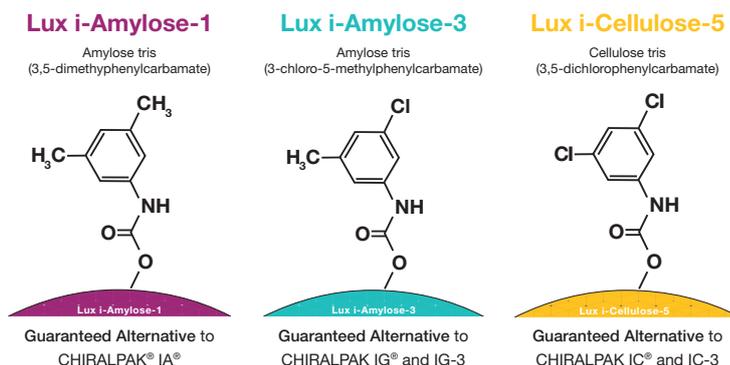
[Chiral Separation of Flavanone Under Polar Organic Conditions](#)

Make the Switch to Lux!

If you are using one of the DAICEL [®] columns below:	Guaranteed alternative:
CHIRALPAK [®] IA [®]	Lux i-Amylose-1
CHIRALPAK IG [®] and IG-3	Lux i-Amylose-3
CHIRALPAK IC [®] and IC-3	Lux i-Cellulose-5
CHIRALPAK AD [®] , AD-H [®] , AD-3, AD-RH [®] , and AD-3R	Lux Amylose-1
CHIRALPAK AY [®] , AY-H [®] , AY-3, AY-RH, and AY-3R	Lux Amylose-2
CHIRALCEL [®] OD [®] , OD-H [®] , OD-3, OD-RH [®] , and OD-3R	Lux Cellulose-1
CHIRALCEL OZ, OZ-H [®] , OZ-3, OZ-RH, and OZ-3R	Lux Cellulose-2
CHIRALCEL OJ [®] , OJ-H [®] , OJ-3, OJ-RH [®] , and OJ-3R	Lux Cellulose-3
CHIRALCEL OX-H, OX-3, OX-RH, and OX-3R	Lux Cellulose-4

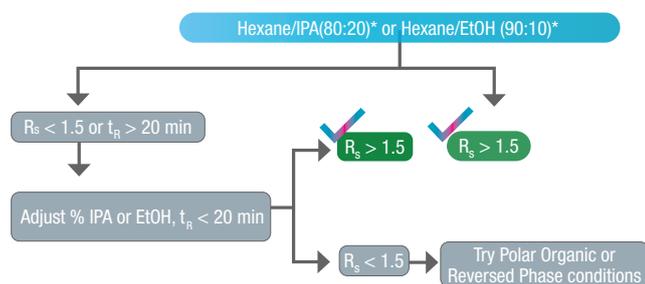
Simplified Chiral Column Screening Strategy

Lux immobilized chiral stationary phases provide complementary but distinct enantioselectivity for a wide range of chirality. In addition, the immobilization process allows for the use of a wide range of mobile phases and strong solvents. Making the Lux immobilized phases an ideal chiral screening starting point.

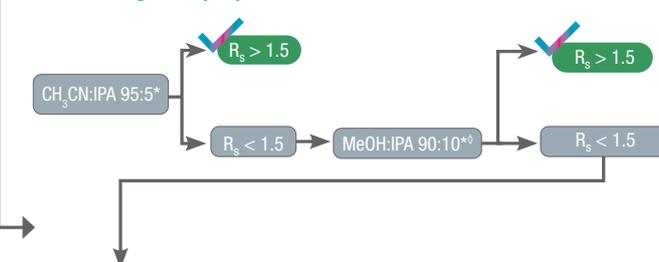


HPLC Screen

Normal Phase (NP)



Polar Organic (PO)



Reversed Phase (RP)

Acidic Compounds

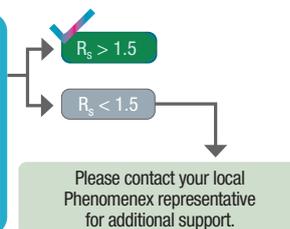
1. CH₃CN:0.1% Formic Acid or 0.1% Acetic Acid
2. MeOH:0.1% Formic Acid or 0.1% Acetic Acid

Neutral Compounds

1. CH₃CN: Water
2. MeOH: Water

Basic Compounds

1. CH₃CN w/ 20 mM NH₄HCO₃ + 0.1% DEA
2. MeOH w/ 20 mM NH₄HCO₃ + 0.1% DEA



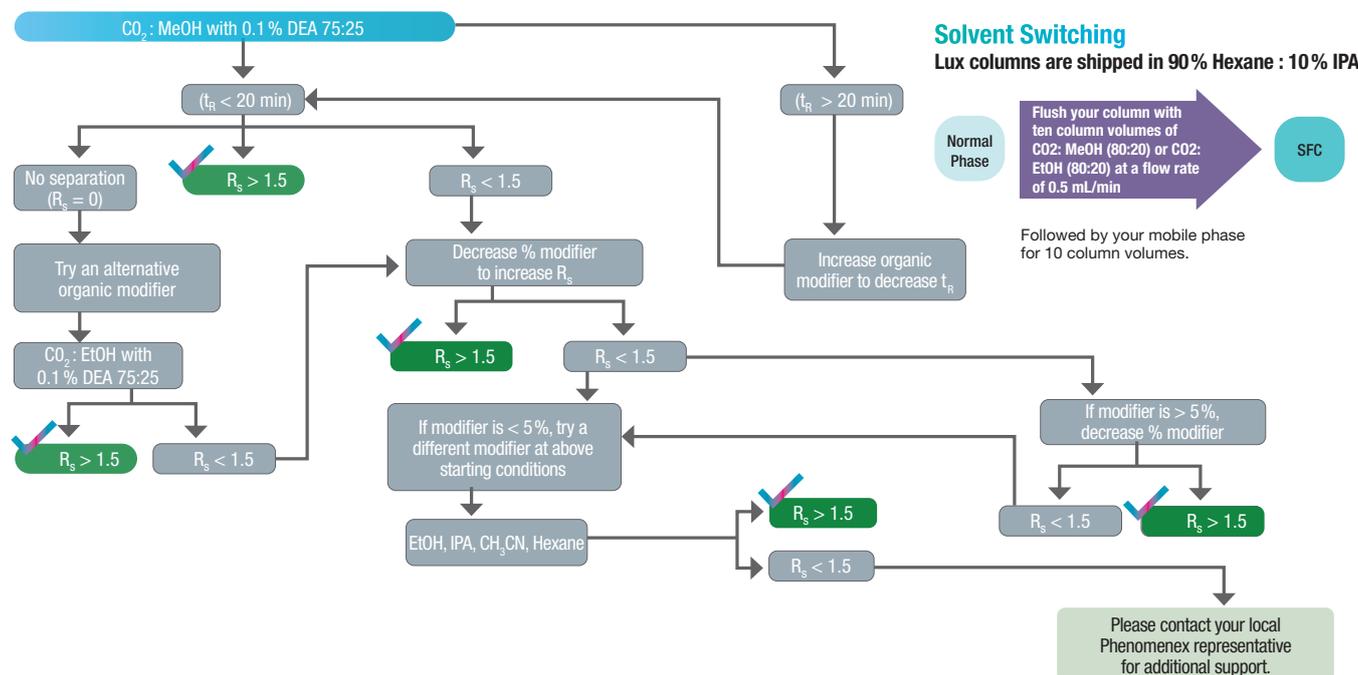
Tip

Use 0.1% DEA with basic and neutral compounds and 0.1% HCOOH with acidic and neutral compounds

Notes: This screening strategy can be started at any step depending on the properties of the racemates. A common dimension used in chiral screening is 250 x 4.6 mm. For faster screening, use shorter columns.
* Use 0.1% DEA with basic and neutral compounds and 0.1% HCOOH with acidic and neutral compounds
† Changing % IPA in methanol can be occasionally beneficial

Key: IPA: Isopropanol; DEA: Diethylamine; MeOH: Methanol; CH₃CN: Acetonitrile; EtOH: Ethanol; CH₃COONH₄: Ammonium acetate; HCOOH: Formic acid; NH₄HCO₃: Ammonium bicarbonate; CO₂: Carbon Dioxide

SFC Screen



Ordering Information

3 µm Analytical Columns (mm)										SecurityGuard™ Cartridges (mm)	
Phases	50 x 2.0	150 x 2.0	100 x 3.0	150 x 3.0	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6		4 x 2.0*	4 x 3.0*
i-Amylose-3	00B-4778-B0	00F-4778-B0	—	—	00B-4778-E0	00D-4778-E0	00F-4778-E0	00G-4778-E0		/10pk	/10pk
i-Cellulose-5	00B-4755-B0	00F-4755-B0	00D-4755-Y0	00F-4755-Y0	00B-4755-E0	00D-4755-E0	00F-4755-E0	00G-4755-E0		AJO-8651	AJO-8650
Cellulose-1	00B-4458-B0	00F-4458-B0	00D-4458-Y0	00F-4458-Y0	00B-4458-E0	00D-4458-E0	00F-4458-E0	00G-4458-E0		AJO-8631	AJO-8632
Cellulose-2	00B-4456-B0	00F-4456-B0	00D-4456-Y0	00F-4456-Y0	00B-4456-E0	00D-4456-E0	00F-4456-E0	00G-4456-E0		AJO-8402	AJO-8403
Cellulose-3	00B-4492-B0	00F-4492-B0	00D-4492-Y0	00F-4492-Y0	00B-4492-E0	00D-4492-E0	00F-4492-E0	00G-4492-E0		AJO-8398	AJO-8366
Cellulose-4	00B-4490-B0	00F-4490-B0	00D-4490-Y0	00F-4490-Y0	00B-4490-E0	00D-4490-E0	00F-4490-E0	00G-4490-E0		AJO-8621	AJO-8622
Amylose-1	00B-4729-B0	00F-4729-B0	00D-4729-Y0	00F-4729-Y0	00B-4729-E0	00D-4729-E0	00F-4729-E0	00G-4729-E0		AJO-8626	AJO-8627
Amylose-2	00B-4471-B0	00F-4471-B0	00D-4471-Y0	00F-4471-Y0	00B-4471-E0	00D-4471-E0	00F-4471-E0	00G-4471-E0		AJO-9337	AJO-9336
										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*
i-Amylose-1	—	00B-4762-E0	00D-4762-E0	00F-4762-E0	00G-4762-E0	AJO-8640	AJO-8641
i-Amylose-3	—	00B-4779-E0	00D-4779-E0	00F-4779-E0	00G-4779-E0	AJO-8651	AJO-8650
i-Cellulose-5	—	00B-4756-E0	00D-4756-E0	00F-4756-E0	00G-4756-E0	AJO-8631	AJO-8632
Cellulose-1	—	00B-4459-E0	00D-4459-E0	00F-4459-E0	00G-4459-E0	AJO-8402	AJO-8403
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-E0	00D-4493-E0	00F-4493-E0	00G-4493-E0	AJO-8621	AJO-8622
Cellulose-4	—	—	00D-4491-E0	00F-4491-E0	00G-4491-E0	AJO-8626	AJO-8627
Amylose-1	00B-4732-B0	—	00D-4732-E0	00F-4732-E0	00G-4732-E0	AJO-9337	AJO-9336
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

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Comparative separations may not be representative of all applications. Columns used for comparisons were manufactured by DAICEL Corporation. Phenomenex is in no way affiliated with DAICEL or Waters Corporation.

Axia column and packing technology 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.

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