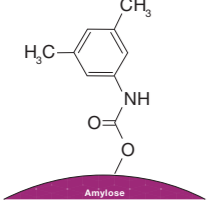
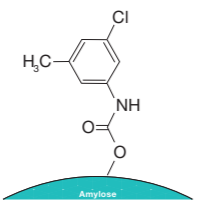
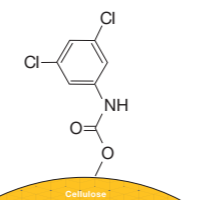
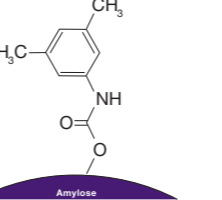
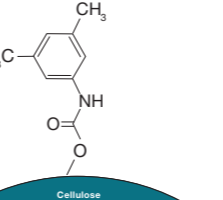
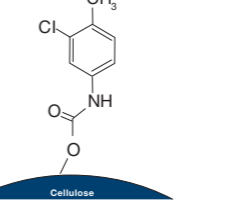
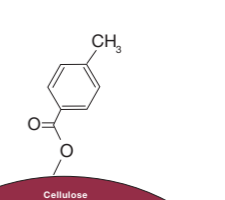
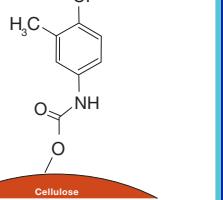


Simplified Chiral HPLC/SFC Column Screening Strategies



Lux Polysaccharide Chiral Columns

Immobilized			Coated				
Amylose		Cellulose	Amylose	Cellulose			
Lux i-Amylose-1 Amylose tris (3,5-dimethylphenylcarbamate)  Guaranteed Alternative to CHIRALPAK IA* and IA-3	Lux i-Amylose-3 Amylose tris (3-chloro-5-methylphenylcarbamate)  Guaranteed Alternative to CHIRALPAK IG* and IG-3	Lux i-Cellulose-5 Cellulose tris (3,5-dichlorophenylcarbamate)  Guaranteed Alternative to CHIRALPAK IC* and IC-3	Lux Amylose-1 Amylose tris (3,5-dimethylphenylcarbamate)  Guaranteed Alternative to CHIRALPAK AD*, AD-H*, AD-3, AD-RH*, and AD-3R	Lux Cellulose-1 Cellulose tris (3,5-dimethylphenylcarbamate)  Guaranteed Alternative to CHIRALCEL OD*, OD-H*, OD-3, OD-RH*, and OD-3R	Lux Cellulose-2 Cellulose tris (3-chloro-4-methylphenylcarbamate)  Guaranteed Alternative to CHIRALCEL OZ, OZ-H*, OZ-3, OZ-RH, and OZ-3R	Lux Cellulose-3 Cellulose tris (4-methylbenzoate)  Guaranteed Alternative to CHIRALCEL OJ*, OJ-H*, OJ-3, OJ-RH*, and OJ-3R	Lux Cellulose-4 Cellulose tris (4-chloro-3-methylphenylcarbamate)  Guaranteed Alternative to CHIRALCEL OX-H, OX-3, OX-RH, and OX-3R

Why Choose Lux Chiral Columns?



- Suitable for normal phase, polar organic, SFC, and reversed phase conditions
- 3 μ m and 5 μ m packed columns, as well as 10 μ m and 20 μ m bulk media for scale up
- Pressure stable up to 300 bar
- High efficiency and loading capacity
- PhenoLogix Free Chiral Screening!
- Easy scale up to Preparative Axia™ column dimensions

HPLC Screen

Your Lux Polysaccharide column is generally shipped in Normal Phase Mode

Normal Phase (NP)

Hexane / IPA (80:20)* or Hexane / EtOH (90:10)*

$R_s > 1.5$ ✓ $R_s < 1.5$ or $t_R > 20$ min

Adjust % IPA or EtOH, $t_R < 20$ min

$R_s > 1.5$ ✓ $R_s < 1.5$

Try Polar Organic Conditions or Reversed Phase Conditions

CH₃CN:IPA 95:5* $R_s > 1.5$ ✓ $R_s < 1.5$

MeOH:IPA 90:10** $R_s > 1.5$ ✓ $R_s < 1.5$

$R_s > 1.5$ ✓ $R_s < 1.5$

$R_s > 1.5$ ✓ $R_s < 1.5$

$R_s > 1.5$ ✓ $R_s < 1.5$

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$R_s > 1.5$ ✓ $R_s < 1.5$

$R_s > 1.5$ ✓ $R_s < 1.5$

Tip
We suggest initially screening all three immobilized Lux phases because of greater solvent flexibility.

Reversed Phase (RP)

- Acidic Compounds**
- CH₃CN:0.1% Formic Acid or 0.1% Acetic Acid
 - MeOH:0.1% Formic Acid or 0.1% Acetic Acid
- Neutral Compounds**
- CH₃CN: Water
 - MeOH: Water
- Basic Compounds**
- CH₃CN w/ 20 mM NH₄HCO₃ + 0.1% DEA
 - MeOH w/ 20 mM NH₄HCO₃ + 0.1% DEA

Please contact your local Phenomenex representative for additional support.

Notes: This screening strategy can be started at any step depending on the properties of the enantiomers. A common dimension used in chiral screening is 250 x 4.6mm. 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

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

SFC Screen

Switch from Normal Phase to SFC, follow protocol 3

CO₂: MeOH with 0.1% TFA 75:25

$t_R < 20$ min $t_R > 20$ min

$R_s > 1.5$ ✓ No separation ($R_s = 0$) $R_s < 1.5$

Try an alternative organic modifier CO₂: EtOH with 0.1% DEA 75:25

$R_s > 1.5$ ✓ $R_s < 1.5$

$R_s > 1.5$ ✓ $R_s < 1.5$

$R_s > 1.5$ ✓ $R_s < 1.5$

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$R_s > 1.5$ ✓ $R_s < 1.5$

Tip
For basic or acidic chiral compounds, it may be necessary to use an appropriate mobile phase modifier for improved peak shape and resolution.

Please contact your local Phenomenex representative for additional support.

Solvent Switching Protocols

Lux columns are generally shipped in 90% Hexane: 10% IPA

Solvent Switch From:

Protocol 1

Normal Phase

Flush your column with ten column volumes of MeOH: EtOH 90:10 at a flow rate of 0.5 mL/min Followed by your mobile phase for 10 column volumes.

Protocol 2

Polar Organic

Flush your column with ten column volumes of MeOH: EtOH 90:10 at a flow rate of 0.5 mL/min Followed by your mobile phase for 10 column volumes.

Protocol 3

Normal Phase

Flush your column with ten column volumes of MeOH: EtOH 90:10 at a flow rate of 0.5 mL/min Followed by your SFC mobile phase for 10 column volumes. Lower the flow rate to 0.3 mL/min until the methanol/ethanol flushed out.

Solvent Switch To:

Polar Organic or Reversed Phase**

Normal Phase

SFC



Chiral Screening

For more information or to begin a project today, please contact your local Phenomenex representative.

You can also visit us online: www.phenomenex.com/phenologix

or email us at: phenologix@phenomenex.com

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