

Chirobiotic™ HPLC Columns for Chiral Separations

- Bonded Macrocylic Glycopeptide Phases
- 3 Complementary Selectivities
- Efficient 5µm Particles
- Effective in Multiple Modes

Astec's Chirobiotic™ columns offer a relatively new technology for chiral separations. The technology is based on covalently bonding macrocylic glycopeptides to a high purity, 5µm-spherical silica gel. The chiral ligands are attached by multiple linkages in such a way as to establish stability while retaining essential components for chiral recognition.

Three unique Chirobiotic™ phases are now available: Chirobiotic V™ (Vancomycin), Chirobiotic T™ (Teicoplanin), and new Chirobiotic R™ (Ristocetin A). Each of these chiral phases has unique selectivity characteristics that are complimentary to each other. This means an analyte unable to be sufficiently resolved on one Chirobiotic™ phase, can likely be baseline resolved on one of the others.

Chirobiotic™ columns have demonstrated a broad selectivity in 3 different modes of operation: reversed phase, normal phase, and polar organic phase modes. Enantio-selectivity differs in each of these modes, giving Chirobiotic™ columns the ability to separate a greater variety of chiral analytes than columns that operate in only 1 mode. Chirobiotic™ columns do not need to be dedicated to one mode of operation, as the stationary phase is unaffected when switching between different mobile phase systems.

Chirobiotic V™

Ideal for:

- Neutral Molecules, Amides, Acids, Esters, and Cyclic Amines

Chirobiotic V™ is the first of Astec's Chirobiotic™ phases. The Vancomycin bonded phase contains 18 chiral centers surrounding 3 cavities that are bridged by five aromatic ring structures. Hydrogen donor and acceptor sites are readily available close to the ring structures. Chirobiotic V™ has demonstrated selectivity similar to glycoprotein phases with the added advantage that it is stable from 0-100% organic modifier and exhibits higher sample capacity.

Chirobiotic T™

Ideal For:

- Underivatized Amino Acids, N-derivatized Amino Acids, Carboxylic Acids, Phenols, Small Peptides, Neutral Aromatics, and Cyclic Aromatic and Aliphatic Amines

Chirobiotic T™, Astec's second Chirobiotic™ phase, is based on Teicoplanin. It has 23 chiral centers surrounding four cavities. Hydrogen donor and acceptor sites are readily available close to seven aromatic rings. Chirobiotic V™ is an excellent alternative to crown ether and ligand exchange for amino acids and hydroxy acids.

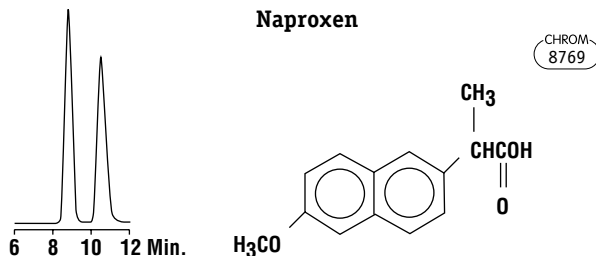
Chirobiotic R™

Ideal For:

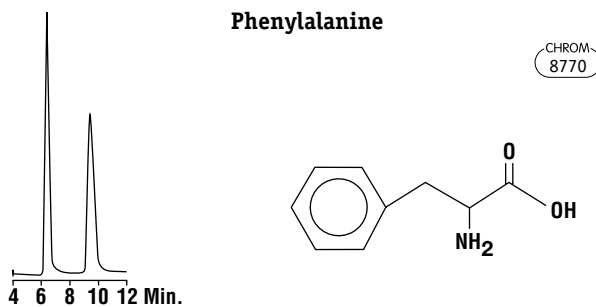
- Anionic Molecules, Di- and Tri-peptides, α-hydroxy Acids, Substituted Aliphatic Acids, Aromatic Esters, Chiral Alcohol, and Secondary and Tertiary Amines

Chirobiotic R™ is Astec's newest introduction in this line. It is based on covalently bonded Ristocetin A, the largest and most complex of Chirobiotic™ ligands. Ristocetin A has 38 chiral centers surrounding 4 cavities. Six sugar moieties, a peptide chain, and additional ionizable groups give this structure the complexity and diversity to separate a wide variety of analytes.

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Column: Chirobiotic V™, 250 x 4.6mm
Mobile Phase: THF:0.1% Triethylammonium Acetate (TEAA), pH 7 (10:90)
Flowrate: 1.0mL/min
Detector: UV at 254nm



Column: Chirobiotic T™, 250 x 4.6mm
Mobile Phase: Ethanol:Water (80:20)
Flowrate: 1.0mL/min
Detector: UV at 210nm

Astec Chirobiotic™ Columns

PACKING	PARTICLE SIZE	LENGTH x ID	PART NO.	PRICE
Chirobiotic V™	5µm	50 x 4.6mm	11346	
		150 x 4.6mm	11023	
		250 x 4.6mm	11024	
		250 x 10.0mm	11034	
Chirobiotic T™	5µm	50 x 4.6mm	11349	
		150 x 4.6mm	12051	
		250 x 4.6mm	12053	
		250 x 10.0mm	12085	
Chirobiotic R™	5µm	50 x 4.6mm	12514	
		150 x 4.6mm	12516	
		250 x 4.6mm	12518	
		250 x 10.0mm	12520	

Astec Chirobiotic™ Guard Cartridges

PACKING	LENGTH x ID	PART NO.	PRICE
Guard Cartridges (Requires Astec Guard Holder)			
Chirobiotic V™	20 x 4.0mm	11019	
Chirobiotic T™	20 x 4.0mm	12445	
Chirobiotic R™	20 x 4.0mm	12522	

Guard Holder

Astec Guard Cartridge Holder	11014
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Semi-Preparative and Preparative scale columns are available, contact Alltech Customer Service.

Contact your Alltech office or distributor for current or local prices.