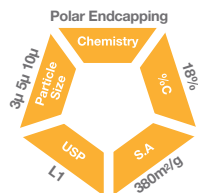


Fortis™ H2o

- Retention of Polars by Polar Endcapping Group
- Enhanced Resolution
- 100% Aqueous Compatible
- Fully Scalable

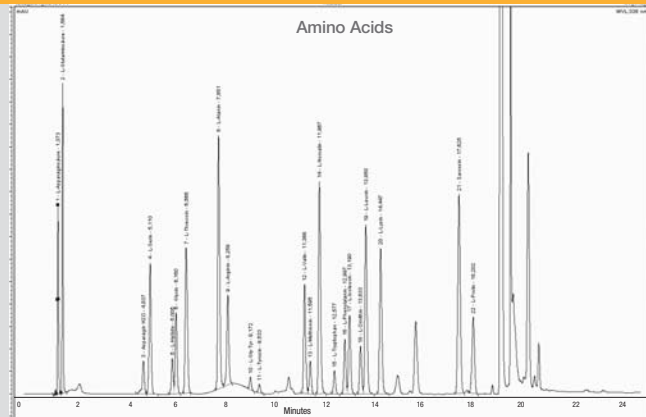
Fortis H2o is designed to aid in the separation and retention of polar analytes. Complex mobile phase systems can be bypassed if sufficient retention can be provided by the stationary phase chemistry. Fortis H2o is designed to supply additional interaction with polar molecules which allows their successful retention.



Retention of Polar analytes - Amino Acids

Column : Fortis H2o 150x2.1mm 5µ
p/n : FHO-020705

- | | |
|--------------------|---------------------|
| 1. L-Aspartic acid | 12. L-Valine |
| 2. L-Glutamic acid | 13. L-Methionine |
| 3. Asparagine | 14. L-Norvalin |
| 4. L-Serine | 15. L-Tryptophan |
| 5. L-Histidine | 16. L-Phenylalanine |
| 6. Glycine | 17. L-Isoleucine |
| 7. L-Threonine | 18. L-Ornithine |
| 8. L-Alanine | 19. L-Leucine |
| 9. L-Arginine | 20. L-Lysine |
| 10. L-Gly-Tyr | 21. Sarcosin |
| 11. L-Tyrosin | 22. L-Proline |



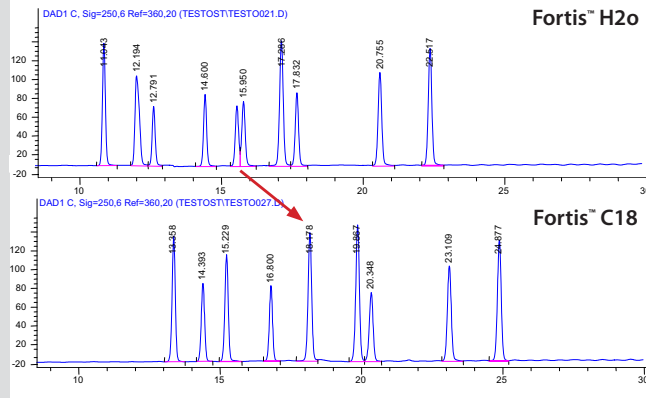
Alternative Selectivity - Steroids

Fortis H2o's unique bonded character ensures that not only is reproducibility and robustness assured, but also that resolution is of the highest level. Different selectivity can also be achieved from that of our Fortis C18 stationary phase.

Column: Fortis H2o 150x2.1mm 3µ
p/n: FHO-020703

Mobile Phase:

Flow: 0.2ml/min
Temp: 25°C
Wavelength: DAD 250

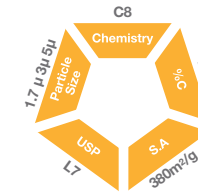


Data Courtesy of : AstraZeneca, UK

Fortis™ C8

- Reduced Hydrophobicity over C18
- Excellent Peak Shapes
- Fully Scalable

Fortis C8 is designed to provide characteristics similar to Fortis C18 but specifically for situations where less hydrophobicity is required. The same gains in peak shape, efficiency, resolution and scalability are available providing increased productivity to the analyst.



Optimised Peak Shape

Fortis C8 is optimised to provide the best possible peak shapes and efficiency.

Basic, Acidic and Neutral analyte performance is first class.

- Higher Efficiencies
- Greater Reproducibility
- Symmetrical peak shapes
- Lower Hydrophobicity

Column: Fortis C8 150x4.6mm 5µ
p/n: F08-050705

Mobile Phase: A - H₂O + 0.1% Formic acid
B - MeOH + 0.1% Formic acid

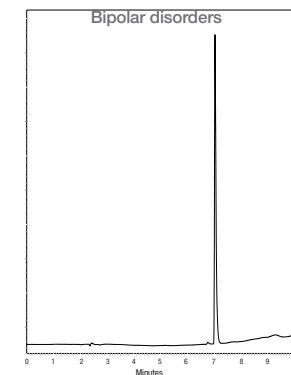
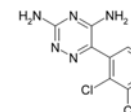
Gradient: 10 - 90% in 10min

Flow: 1ml/min

Temp: 25°C

Wavelength: 254nm

1. Lamotrigine



Anticonvulsant

Column: Fortis C8 150x4.6mm 5µ
p/n: F08-050705

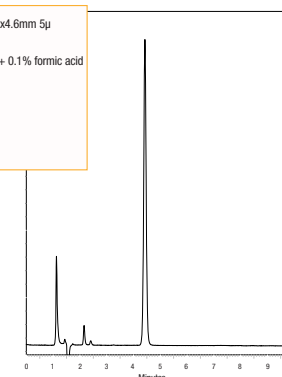
Mobile Phase: 40 : 60 H₂O + 0.1% formic acid ACN

Flow: 1ml/min

Temp: 25°C

Wavelength: 220nm

1. Valproate Semisodium



Antiplatelet

Column: Fortis C8 150x4.6mm 5µ
p/n: F08-050705

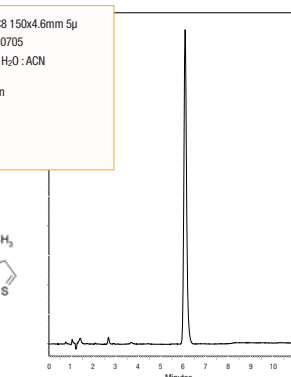
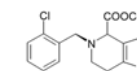
Mobile Phase: 25 : 75 H₂O : ACN

Flow: 1ml/min

Temp: 25°C

Wavelength: 254nm

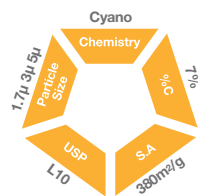
1. Clopidogrel



Fortis™ Cyano

- Retention of Polars
- Alternative Selectivity
- Normal Phase or Reverse Phase system
- Rapid Equilibration

Fortis Cyano allows the use of aqueous reversed phase conditions to provide less retention for compounds too heavily retained on C18 functionality. However, it can also be used in normal phase solvent systems to retain and separate polar analyte species. Cyano columns are particularly useful for polar species. Fortis Cyano is now also available in 1.7µm particle size for UHPLC work.



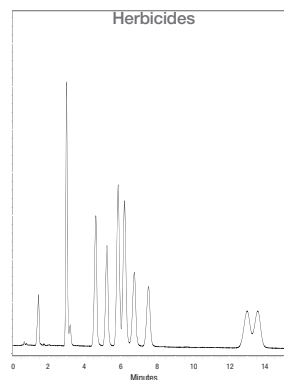
Herbicides

Fortis Cyano is optimised not only to help retain and resolve polar analytes, but also to be complementary in resolution to other Fortis phases.

- Normal phase as well as Reversed phase use
- Alternative Selectivity
- Rapid Equilibration

Column : Fortis Cyano 50x2.1mm 3µ
p/n : FCN-020303
Mobile Phase: 80:20 H₂O : ACN + 0.2% Acetic acid
Flow : 0.2ml/min
Temp : 20°C
Wavelength: 280nm

1. Banvel
2. Internal Std
3. 2,4-D
4. MCPA
5. PCOC
6. 2,4-DCP
7. 2,4-DP
8. CMPP
9. 2,4-DB
10. MCPB



To see more applications on Fortis Cyano turn to page 37. To learn more about Fortis Cyano 1.7µm see page 7.

Fortis Cyano	Column Length			
	50	100	150	250
2.1	FCN-0203xx	FCN-0205xx	FCN-0207xx	-
3.0	FCN-0303xx	FCN-0305xx	FCN-0307xx	-
4.6	FCN-0503xx	FCN-0505xx	FCN-0507xx	F18-0509xx

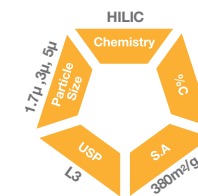
Replace xx - 01 for 1.7µm - 03 for 3µm - 05 for 5µm

Fortis Cyano Guards	Length
	10
Column Diameter	2.1 DCCN-0200xxG
	4.6 DCCN-0500xxG

Fortis™ HILIC

- Retention of Polar Compounds
- Increased MS Sensitivity
- Alternate Selectivity
- Reduced Extraction (SPE) and Dry Down Times.

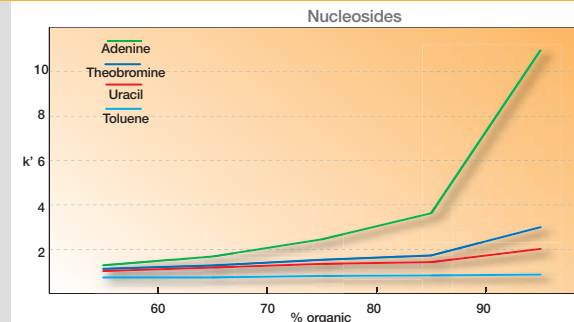
Fortis HILIC (Hydrophilic Interaction Chromatography) is designed to aid in the separation and retention of very polar analytes. Extended retention is afforded by the partitioning, ion-exchange and hydrogen bonding that can occur on a HILIC stationary phase. Fortis HILIC can increase sensitivity in MS analysis and provide alternate selectivity to that achieved with reversed phase C18. Fortis HILIC is now also available in 1.7µm particle size for UHPLC work.



Polar retention in HILIC mode

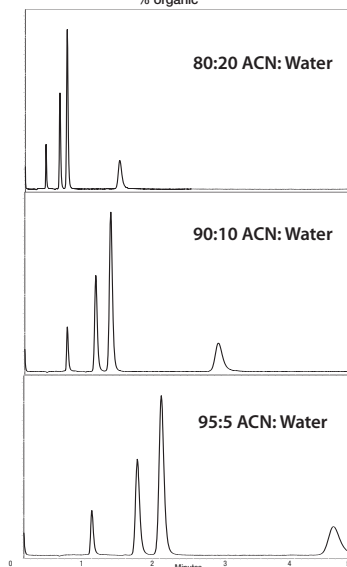
Fortis HILIC is optimised to help retain and resolve polar analytes. By use of high concentrations of organic solvent polar analytes partition with the stationary phase.

- Polar Retention
- Alternative Selectivity
- Rapid Equilibration



Hydrophilic Interaction Chromatography (HILIC) works in a similar way to normal phase chromatography. A polar surface combined with a non-polar mobile phase, typically ACN, allows for partition of the polar analytes and hence retention and separation. Water is used in low concentration as the strong solvent in order to elute the compounds.

Usually no more than 20%-30% water is needed in order to elute most analyte species.

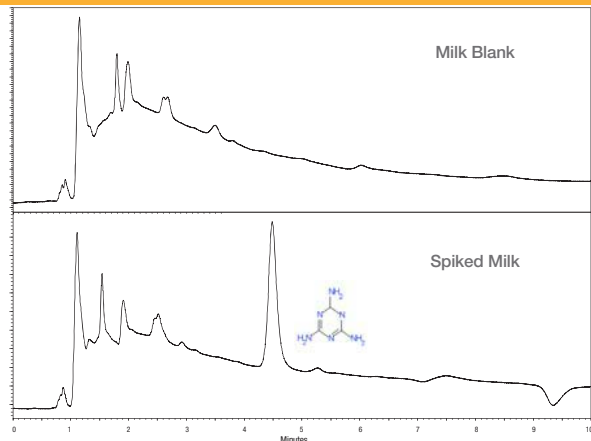




Melamine Contamination

Melamine has been adulterated into many products, but most importantly into baby milk in order to increase the apparent protein content. Due to its highly polar organic nature, 1,3,5-Triazine structure, it can be very difficult to retain in HPLC. HILIC provides a simple method in order to quickly quantitate melamine.

Column : Fortis HILIC 100x2.1mm 3µ
p/n : FHI-020503
Mobile Phase: 90:10 ACN : 20mM NH₃OAc
Flow : 0.2ml/min
Temp : 20°C
Wavelength: 210nm

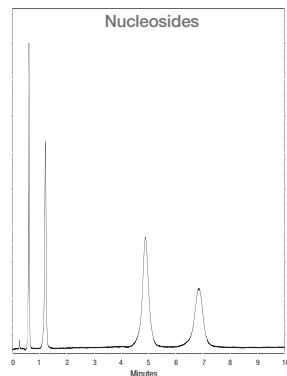


Nucleosides

Nucleosides are typically difficult to retain due to the ribose or deoxyribose sugar that forms part of their structure. Fortis HILIC provides a good tool to retain and separate these polar analytes in simple mobile phase conditions.

Column : Fortis HILIC 50x4.6mm 5µ
p/n : FHI-050305
Mobile Phase: 95:5 ACN : 100mM NH₃OAc
Flow : 1ml/min
Temp : 20°C
Wavelength: 254nm

1. Uracil
2. Uridine
3. Cytosine
4. Guanosine



Fortis HILIC	Column Length			
	50	100	150	250
2.1	FHI-0203xx	FHI-0205xx	FHI-0207xx	-
Column Diameter	3.0	FHI-0303xx	FHI-0305xx	FHI-0307xx
	4.6	FHI-0503xx	FHI-0505xx	FHI-0507xx
				FHI-0509xx

Replace xx - 01 for 1.7µm - 03 for 3µm - 05 for 5µm - 10 for 10µm

Fortis HILIC Guards	Length
	10
Column Diameter	2.1 DCHI-0200xxG
	4.6 DCHI-0500xxG

Fortis Pace™

- LC/MS Optimised Column Hardware
- 20mm and 30mm Column Lengths
- High Throughput
- High Efficiency and Resolution

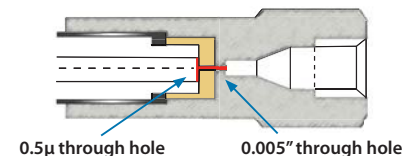
Fortis Pace™ columns are designed with High Throughput Screening (HTS) applications in mind. Optimised for use in LC/MS to provide greatest sensitivity by achieving sharp peak shapes combined with excellent resolution and retention. Any Fortis stationary phase and particle sizes can be supplied in this hardware.



Optimised Hardware

Fortis Pace column hardware is specifically designed for HTS, whether isocratic or by ballistic gradients. Optimised packing density in this low volume hardware leads to ultra sharp peak shapes combined with maximum efficiency.

By combining a low volume flow path with an optimised frit Fortis PACE columns provide improved efficiency, Asymmetry and pressure.



- Reduced peak widths
- Higher Efficiency
- Eliminated dead volume

Hardware Comparison			
	plates/m	Sym	Bar
Standard Hardware	93,100	1.173	48
PACE™ Hardware	100,176	1.113	38
% Change	+7.6%	-5.4%	-21%

Complimentary Stationary Phases

Fortis stationary phases have been proven to exhibit excellent peak shapes and efficiency, packed in Pace hardware allows speed and resolution to be achieved without the need for UHPLC systems.

Providing highly retentive and selective phases allows strong retention properties, enabling high concentrations of organic modifier to be utilised optimising the MS ionisation process.

Gains are also made in:

- Reduced analysis time
- Increased productivity
- Lower solvent consumption

Column: Fortis Pace C18 30x2.1mm 5µ
p/n: F18-020205
Mobile Phase: A - H₂O + 0.1% Formic acid
 B - ACN + 0.1% Formic acid
Gradient: 60 - 90% in 2min
Flow: 1ml/min
Temp: 25°C
Wavelength: 254nm

1. Uracil
2. Benzene
3. Ethylbenzene
4. Propylbenzene
5. Butylbenzene
6. Pentylbenzene
7. Hexylbenzene
8. Heptylbenzene

