

If you like Hypersil, you'll love HyperClone

A Guaranteed Direct Replacement to Hypersil

at a fraction of the cost!

VS



HyperClone™

Why HyperClone?

Guaranteed Replacement to Hypersil®

Highly reproducible

Due to advanced manufacturing technology and numerous quality controls, HyperClone has an excellent reproducibility history.

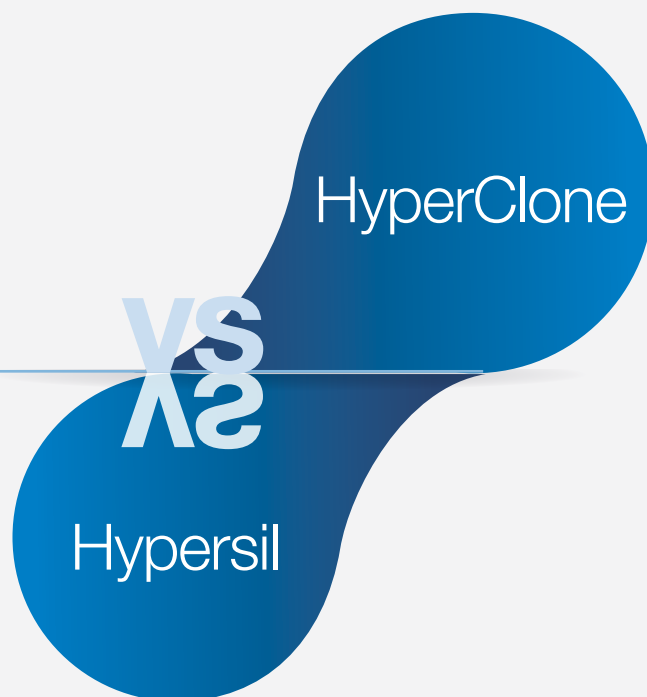
Long Column Lifetime

HyperClone columns have shown extreme column lifetime under most rugged conditions.

Mimics performance of Thermo Hypersil-Keystone Hypersil®

HyperClone is packed only by Phenomenex, thereby reducing the chance of column-to-column variation. You will receive columns of consistent quality and reproducibility, and will benefit from Phenomenex's excellent customer support and technical service.

Economically priced



If HyperClone analytical columns do not provide the equivalent separation as compared to Hypersil columns of the same particle size, phase and dimensions, send in your comparative data within 45 days for a FULL REFUND.

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Hypersil®



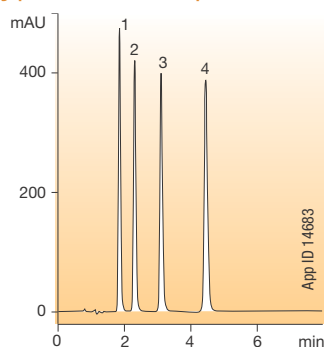
Material Comparison

Phenomenex HyperClone	vs.	Thermo Hypersil-Keystone Hypersil
	BDS Silica[‡]	
3, 5	Particle Size (µm)	3, 5
130	Pore Size (Å)	130
155	Surface Area (m ² /g)	170
0.6	Pore Volume (mL/g)	0.6
	Regular Silica[‡]	
3, 5	Particle Size (µm)	3, 5
120	Pore Size (Å)	120
155	Surface Area (m ² /g)	170
0.6	Pore Volume (mL/g)	0.6
	Carbon Load % Comparison	
7 %	BDS C8	7 %
11 %	BDS C18	11 %
6.5 %	MOS (C8)	6.5 %
10 %	ODS (C18)	10 %
4 %	CN (CPS)	4 %

Parabens

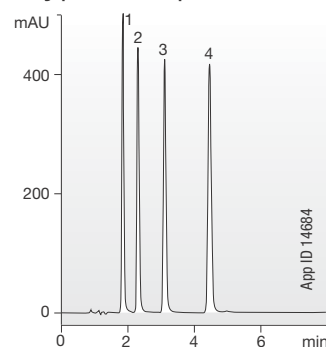
Note: Hypersil columns were manufactured by Thermo Hypersil-Keystone

HyperClone 3µm C8 BDS



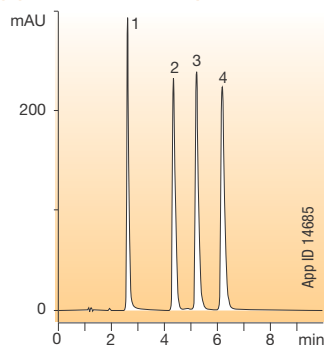
Conditions for Both Columns
Dimensions: 100 x 4.6 mm
Mobile Phase: Water / Acetonitrile (55:45)
Flow Rate: 1.0 mL/min
Detection: UV @ 254 nm
Sample: 1. Methylparaben
 2. Ethylparaben
 3. Propylparaben
 4. Butylparaben

Hypersil 3µm C8 BDS



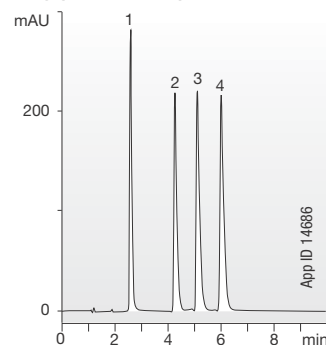
Antidepressants

HyperClone 3µm C8 BDS



Conditions for Both Columns
Dimensions: 100 x 4.6 mm
Mobile Phase: 20 mM KH₂PO₄, pH 7.0 / Methanol / Acetonitrile (30:35:35)
Flow Rate: 1.0 mL/min
Detection: UV @ 254 nm
Sample: 1. Imipramine
 2. Nortriptyline
 3. Amitriptyline
 4. Clomipramine

Hypersil 3µm C8 BDS



Comparative separations may not be representative of all applications.

[‡] All Hypersil information obtained from (then) Thermo Electron Corporation 2006-2007 catalog and 2012-2013 Thermo Scientific Chromatography Columns catalog.

HyperClone™

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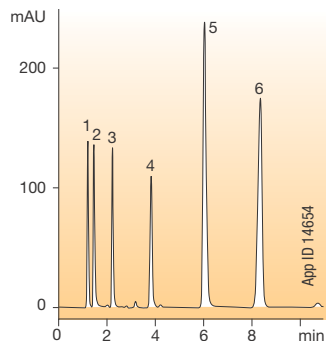
Hypersil®



Non-Polar Basic Compounds

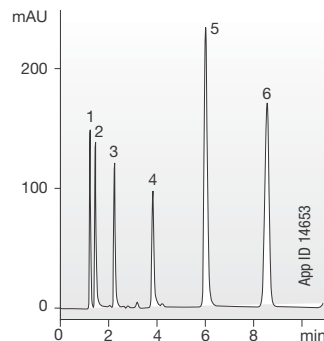
Note: Hypersil columns were manufactured by Thermo Hypersil-Keystone

HyperClone 3µm C18 BDS



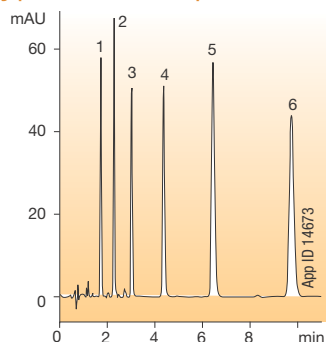
Conditions for Both Columns
Dimensions: 100 x 4.6 mm
Mobile Phase: 50 mM KH_2PO_4 , pH 3.5 / Methanol (40:60)
Flow Rate: 1.0 mL/min
Detection: UV @ 254 nm
Sample:
 1. Uracil
 2. Pyridine
 3. N-Methylaniline
 4. N,N-Dimethylaniline
 5. 2,6-Dichloro-4-Nitroaniline
 6. Toluene

Hypersil 3µm C18 BDS



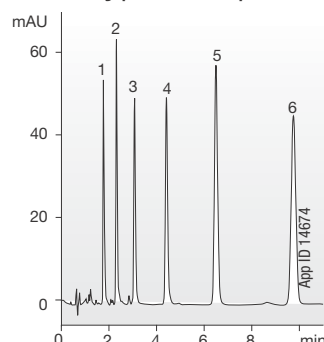
Alkylbenzenes

HyperClone 3µm C18



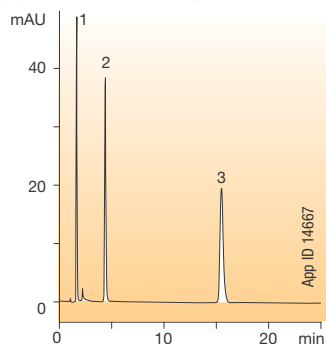
Conditions for Both Columns
Dimensions: 100 x 4.6 mm
Mobile Phase: Acetonitrile / Water (65:35)
Flow Rate: 1.5 mL/min
Detection: UV @ 254 nm
Sample:
 1. Benzene
 2. Toluene
 3. Ethylbenzene
 4. Propylbenzene
 5. Butylbenzene
 6. Amylbenzene

Hypersil 3µm C18



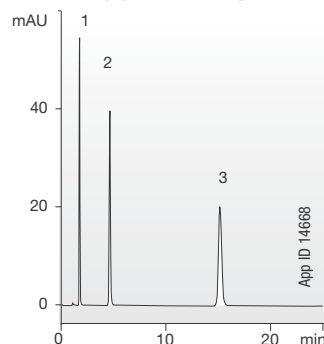
Polarity Test

HyperClone 5µm C18



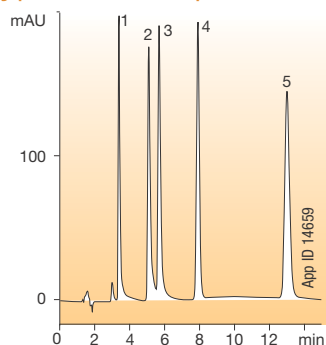
Conditions for Both Columns
Dimensions: 150 x 4.6 mm
Mobile Phase: Methanol / Water (55:45)
Flow Rate: 1.0 mL/min
Detection: UV @ 254 nm
Sample:
 1. Thiourea
 2. Dimethylphthalate
 3. Toluene

Hypersil 5µm C18



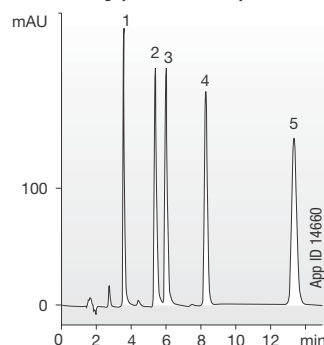
Benzodiazepams

HyperClone 5µm C18



Conditions for Both Columns
Dimensions: 150 x 4.6 mm
Mobile Phase: 20 mM KH_2PO_4 , pH 3.0, 400 µL/L Triethylamine/Acetonitrile (63:37)
Flow Rate: 1.0 mL/min
Detection: UV @ 230 nm
Sample:
 1. Bromazepam
 2. Lorazepam
 3. Oxazepam
 4. Flunitrazepam
 5. Diazepam

Hypersil 5µm C18



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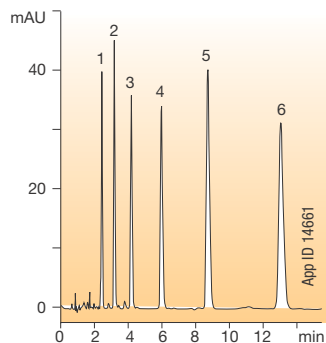
Hypersil®



Alkylbenzenes

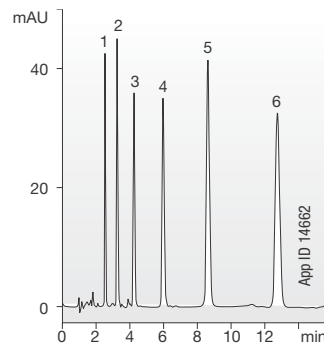
Note: Hypersil columns were manufactured by Thermo Hypersil-Keystone

HyperClone 5µm C18



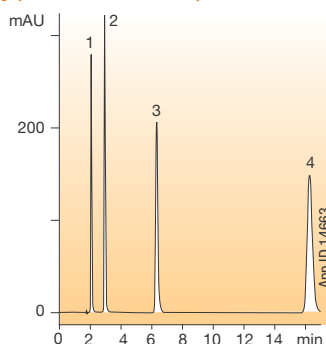
Conditions for Both Columns
Dimensions: 150 x 4.6 mm
Mobile Phase: Acetonitrile / Water (65:35)
Flow Rate: 1.5 mL/min
Detection: UV @ 254 nm
Sample: 1. Benzene
 2. Toluene
 3. Ethylbenzene
 4. Propylbenzene
 5. Butylbenzene
 6. Amylbenzene

Hypersil 5µm C18



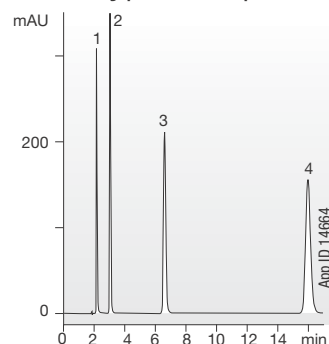
ODS QC Test

HyperClone 5µm C18



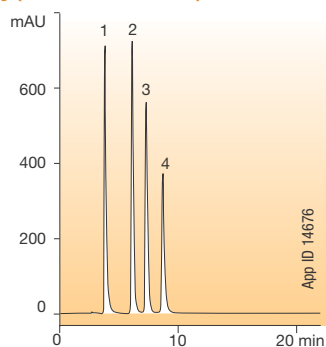
Conditions for Both Columns
Dimensions: 150 x 4.6 mm
Mobile Phase: Water / Methanol (30:70)
Flow Rate: 1.0 mL/min
Detection: UV @ 254 nm
Sample: 1. Benzamide
 2. Acetophenone
 3. Benzophenone
 4. Biphenyl

Hypersil 5µm C18



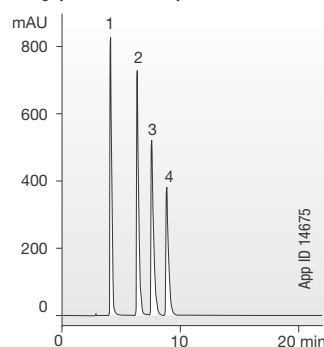
Tricyclic Antidepressants

HyperClone 5µm C8 BDS



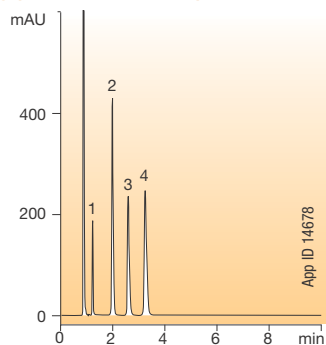
Conditions for Both Columns
Dimensions: 150 x 4.6 mm
Mobile Phase: 20 mM KH_2PO_4 , pH 7.0 / Acetonitrile / Methanol (30:35:35)
Flow Rate: 1.0 mL/min
Detection: UV @ 254 nm
Sample: 1. Imipramine
 2. Nortriptyline
 3. Amitriptyline
 4. Clomipramine

Hypersil 5µm C8 BDS



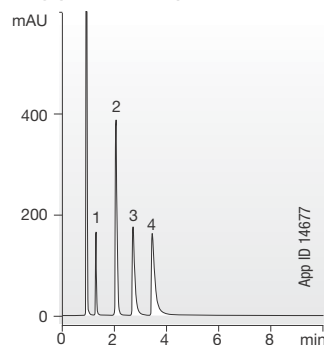
Basic Drugs

HyperClone 5µm C8 BDS



Conditions for Both Columns
Dimensions: 150 x 4.6 mm
Mobile Phase: 50 mM KH_2PO_4 , pH 2.5 / Acetonitrile (80:20)
Flow Rate: 2.0 mL/min
Detection: UV @ 220 nm
Sample: 1. Pseudoephedrine
 2. Lidocaine
 3. Pyrilamine
 4. Chlorpheniramine

Hypersil 5µm C8 BDS



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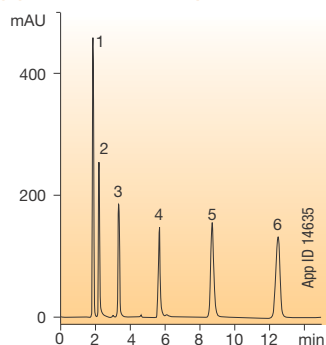
Hypersil®



Non-Polar Basic Compounds

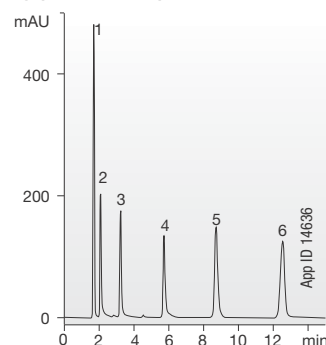
Note: Hypersil columns were manufactured by Thermo Hypersil-Keystone

HyperClone 5µm C18 BDS



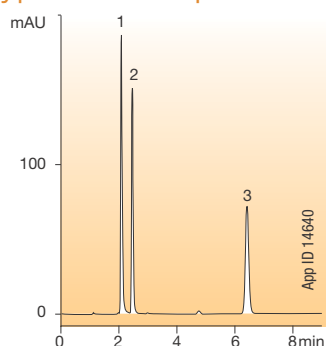
Conditions for Both Columns
Dimensions: 150 x 4.6 mm
Mobile Phase: Methanol / 50 mM KH_2PO_4 , pH 3.5 (60:40)
Flow Rate: 1.0 mL/min
Detection: UV @ 254 nm
Sample: 1. Uracil
 2. Pyridine
 3. Methylaniline
 4. Dimethylaniline
 5. Dichloronitroaniline
 6. Toluene

Hypersil 5µm C18 BDS



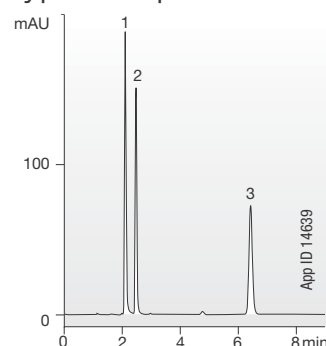
Silanol Activity Test

HyperClone 5µm C18 BDS



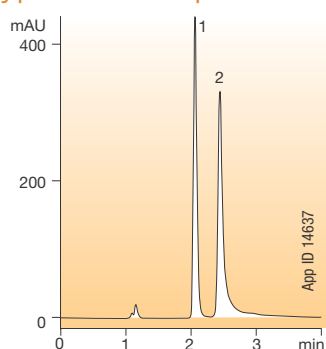
Conditions for Both Columns
Dimensions: 150 x 4.6 mm
Mobile Phase: Water / Acetonitrile (50:50)
Flow Rate: 1.0 mL/min
Detection: UV @ 254 nm
Sample: 1. Pyridine
 2. Phenol
 3. Toluene

Hypersil 5µm C18 BDS



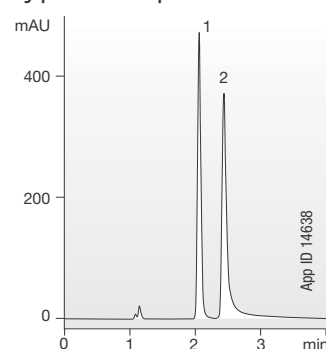
Surface Metal Test

HyperClone 5µm C18 BDS



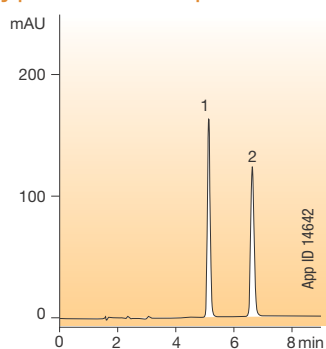
Conditions for Both Columns
Dimensions: 150 x 4.6 mm
Mobile Phase: Water / Acetonitrile (50:50)
Flow Rate: 1.0 mL/min
Detection: UV @ 230 nm
Sample: 1. 2,7-Dihydroxynaphthalene
 2. 2,3-Dihydroxynaphthalene

Hypersil 5µm C18 BDS



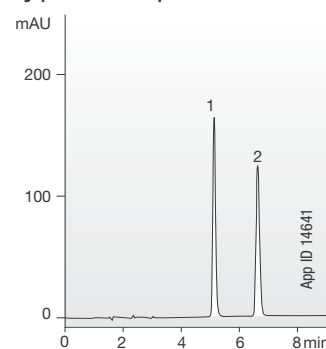
Hydrophobicity Test

HyperClone 5µm C18 BDS



Conditions for Both Columns
Dimensions: 150 x 4.6 mm
Mobile Phase: Water / Acetonitrile (20:80)
Flow Rate: 1.0 mL/min
Detection: UV @ 254 nm
Sample: 1. Butylbenzene
 2. Amylbenzene

Hypersil 5µm C18 BDS



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VS

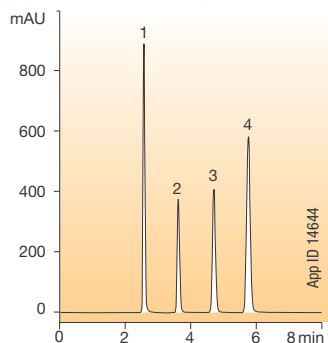
Hypersil®



Performance Test

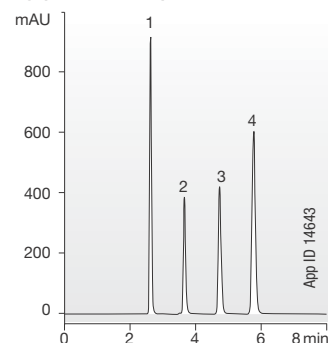
Note: Hypersil columns were manufactured by Thermo Hypersil-Keystone

HyperClone 5µm C18 BDS



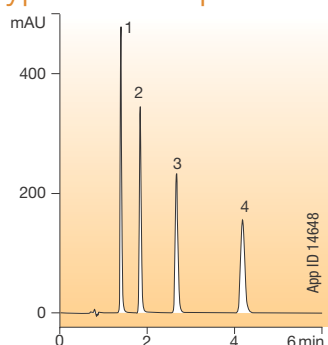
Conditions for Both Columns
Dimensions: 150 x 4.6 mm
Mobile Phase: Water / Acetonitrile (35:65)
Flow Rate: 1.0 mL/min
Detection: UV @ 254 nm
Sample: 1. Acetophenone
 2. Benzene
 3. Toluene
 4. Naphthalene

Hypersil 5µm C18 BDS



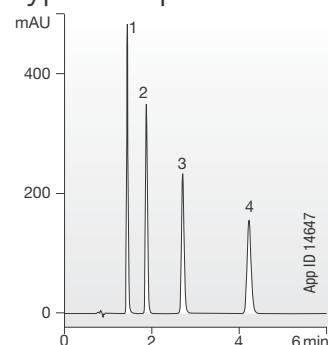
Parabens

HyperClone 5µm C18 BDS



Conditions for Both Columns
Dimensions: 150 x 4.6 mm
Mobile Phase: Acetonitrile / 50 mM KH_2PO_4 pH 7.0 (40:60)
Flow Rate: 2.0 mL/min
Detection: UV @ 260 nm
Sample: 1. Methylparaben
 2. Ethylparaben
 3. Propylparaben
 4. Butylparaben

Hypersil 5µm C18 BDS

Ordering Information
HyperClone

3 µm Minibore and Analytical Columns (mm)							SecurityGuard™ Cartridges (mm)	
Phases	50 x 2.0	150 x 2.0	150 x 3.2	100 x 4.6	125 x 4.0	150 x 4.6	4 x 2.0*	4 x 3.0*
ODS (C18)	—	00F-4356-B0	—	00D-4356-E0	00E-4356-D0	00F-4356-E0	/10pk AJ0-4286	/10pk AJ0-4287
BDS C8	00B-4417-B0	—	—	—	—	00F-4417-E0	/10pk AJ0-4289	/10pk AJ0-4290
BDS C18	00B-4419-B0	00F-4419-B0	00F-4419-R0	00D-4419-E0	—	00F-4419-E0	AJ0-4286	AJ0-4287
							for ID: 2.0-3.0 mm 3.2-8.0 mm	

5 µm Minibore and Analytical Columns (mm)								SecurityGuard™ Cartridges (mm)	
Phases	150 x 2.0	150 x 3.2	250 x 3.2	125 x 4.0	250 x 4.0	100 x 4.6	150 x 4.6	250 x 4.6	
Silica	—	—	—	—	—	—	00F-4358-E0	00G-4358-E0	/10pk AJ0-4247
MOS (C8)	—	—	—	00E-4359-D0	—	00D-4359-E0	00F-4359-E0	00G-4359-E0	/10pk AJ0-4289
ODS (C18)	00F-4361-B0	00F-4361-R0	00G-4361-R0	00E-4361-D0	00G-4361-D0	00D-4361-E0	00F-4361-E0	00G-4361-E0	AJ0-4286
CN (CPS)	—	—	—	—	—	—	—	—	AJ0-4304
BDS C8	—	—	—	—	—	—	00F-4418-E0	00G-4418-E0	/10pk AJ0-4289
BDS C18	00F-4420-B0	00F-4420-R0	—	00F-4420-B0	00G-4420-D0	00D-4420-E0	00F-4420-E0	00G-4420-E0	AJ0-4286
								for ID: 3.2-8.0 mm 3.2-8.0 mm	

5 µm SemiPrep Columns (mm)		SecurityGuard Cartridges (mm)	
Phases	250 x 10	10 x 10 ²	
ODS(2)	00G-4361-N0	/3pk AJ0-7221	for ID: 9-16 mm

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

† SemiPrep SecurityGuard™ Cartridges require holder Part No.: AJ0-7220

guarantee

If HyperClone analytical columns do not provide the equivalent separation as compared to Hypersil columns of the same particle size, phase and dimensions, send in your comparative data within 45 days for a FULL REFUND.

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HyperClone™

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A Guaranteed Direct Replacement to Hypersil

at a fraction of the cost!

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www.phenomenex.com

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Disclaimer

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Comparative separations may not be representative of all applications.

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