

ACE[®] Equivalence[™] C18

High Performance, Excellent Value HPLC Columns

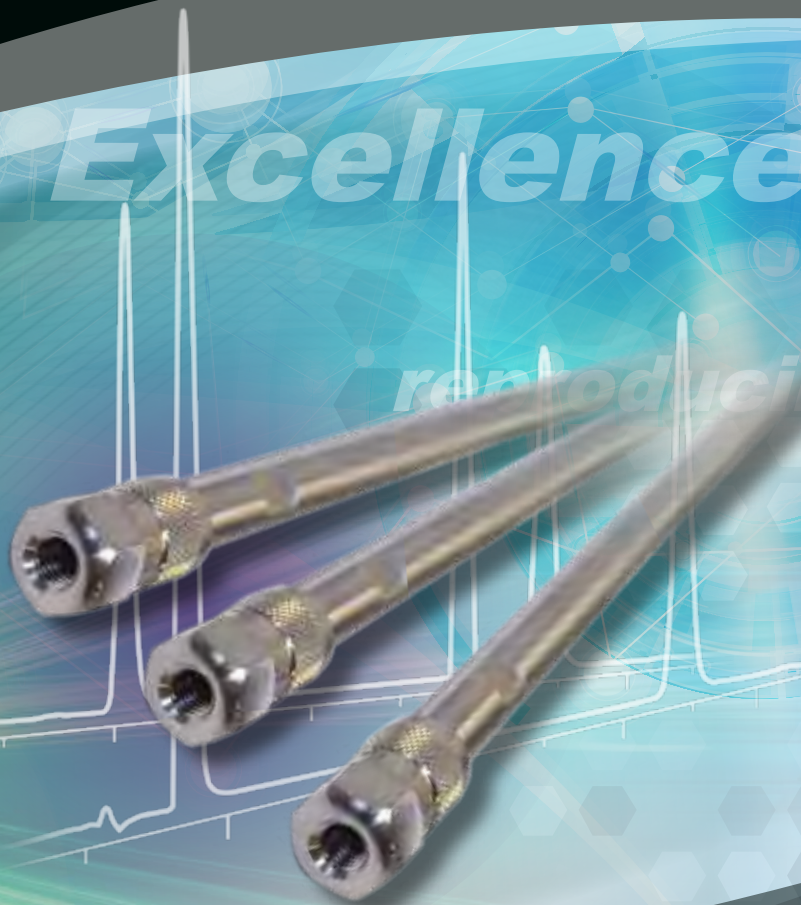
Excellence

reproducibility

Value

ACE

ACE



- Excellent efficiency
- Excellent reproducibility
- Excellent column lifetime
- Excellent value

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We Enable Science

ACE® Equivalence™ C18

High Performance, Excellent Value HPLC Columns

High Efficiency 3µm and 5µm C18 HPLC Columns

- High purity, highly reproducible 3µm and 5µm particle sizes
- Ultra narrow particle size distribution for excellent column efficiency

Excellent Reproducibility

- Made in the United Kingdom in laboratories accredited to ISO9001 Quality Standard
- Every column individually tested and supplied with a test chromatogram
- Excellent column and silica batch reproducibility (see Figure 1)

Excellent Column Lifetime

- Highly stable C18 columns (see Figure 2)
- Ultra robust HPLC column packing technology
- High performance guard system available

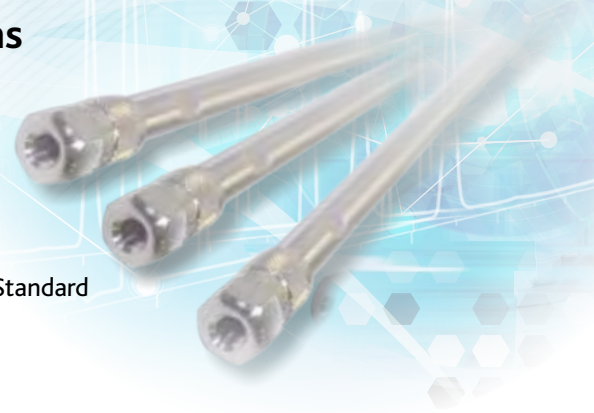
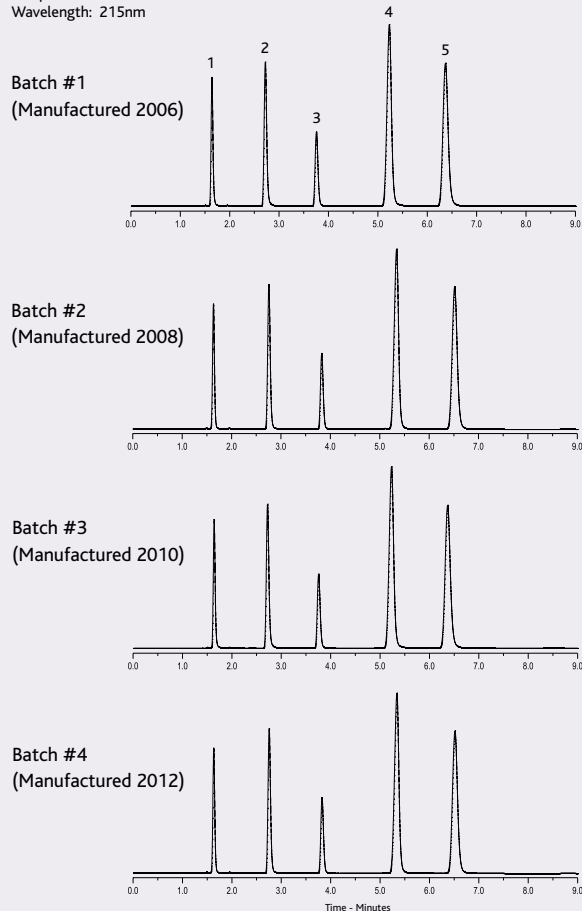


Figure 1 - Excellent Reproducibility

Column: ACE Equivalence 3µm C18, 150 x 4.6mm
Sample: 1) norephedrine 2) nortriptyline 3) toluene 4) imipramine 5) amitriptyline
Mobile Phase: 80:20 v/v MeOH/25mM KH₂PO₄ (pH 6.0)
Temperature: 22°C Flow Rate: 1.00ml/min
Wavelength: 215nm

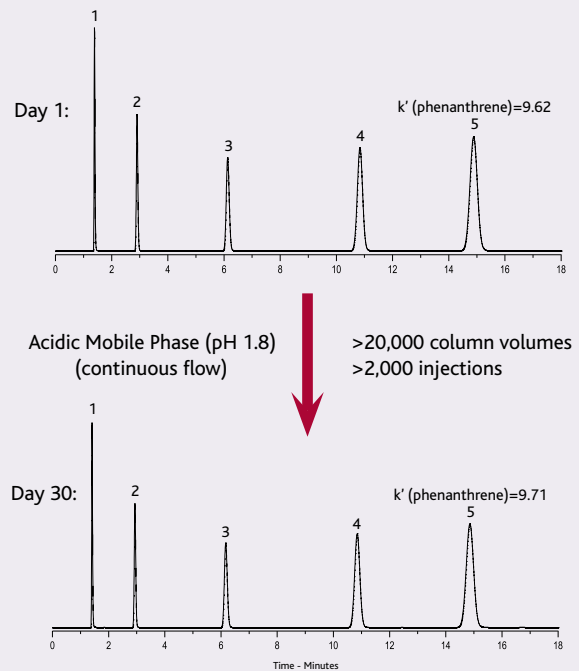


Conclusion:

Highly reproducible historical test data including different silica batches gives you future confidence in ACE Equivalence HPLC columns.

Figure 2 - Excellent Stability

Acidic flow conditions
Column: ACE Equivalence 5µm C18, 150 x 4.6mm
Mobile Phase: 60:40 v/v MeCN:0.1% TFA in H₂O (pH 1.8)
Temperature: 22°C Flow Rate: 1.00ml/min



Evaluation conditions
Sample: 1) uracil 2) dimethyl phthalate 3) toluene 4) biphenyl 5) phenanthrene
Mobile Phase: 60:40 v/v MeCN:H₂O
Temperature: 22°C Flow Rate: 1.00ml/min
Wavelength: 254nm

Conclusion:

Excellent chromatographic performance and stability for thousands of injections gives confidence in the long term use of ACE Equivalence HPLC columns.

ACE Equivalence C18

- ACE Equivalence has been specifically developed as a high quality, cost effective replacement for many leading and legacy HPLC column brands.
- Combining excellent efficiency, superb reproducibility and extended column lifetimes, ACE Equivalence is a highly recommended option to help reduce your analysis costs.

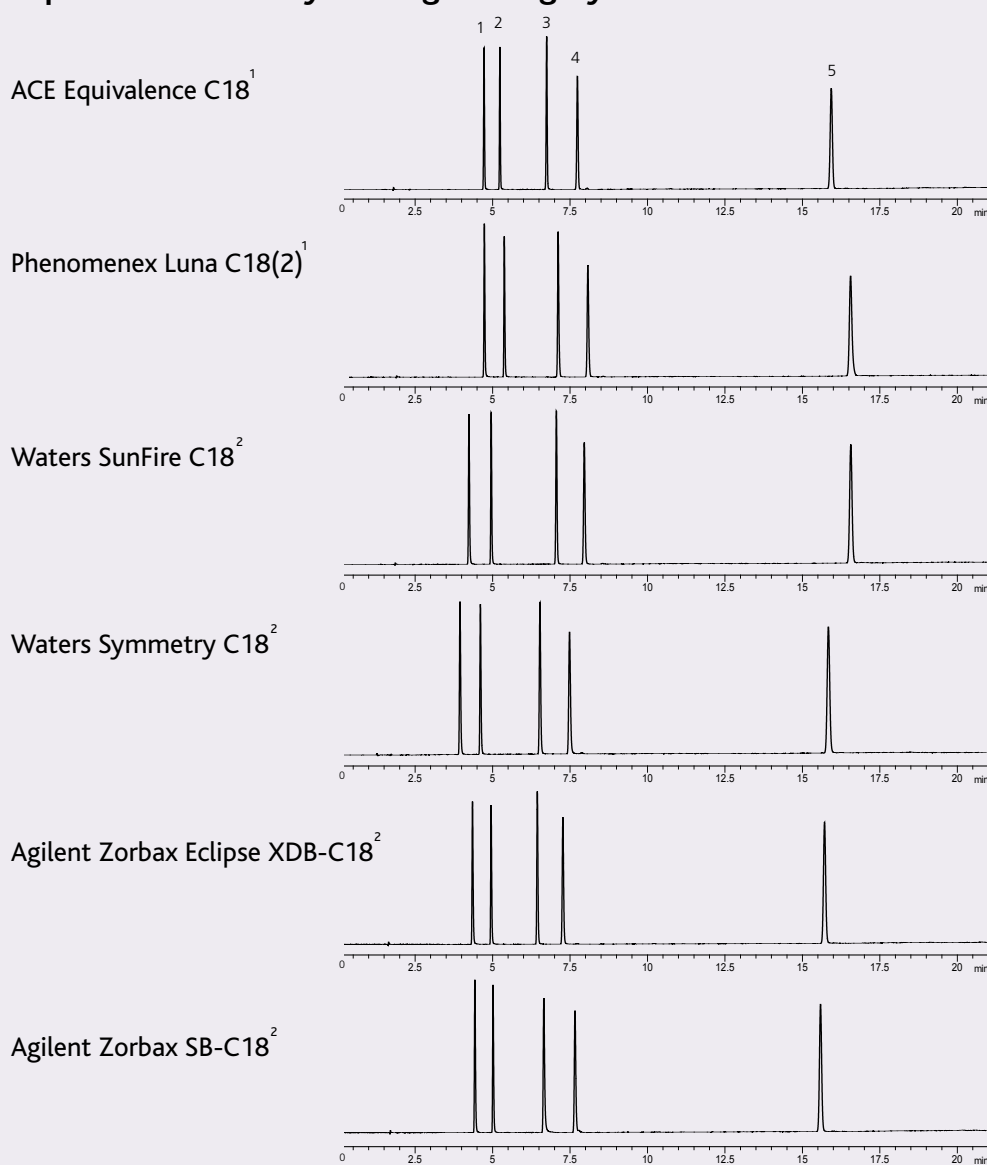
Phase Availability and Specifications

Phase ^a	Functional Group	Endcapped	Particle Size (µm)	Pore Size (Å)	Surface Area (m ² /g)	Carbon Load (%)	Maximum pH Range	USP Listing
ACE Equivalence C18	Octadecyl	Yes	3, 5	110	280	15.0	2.0-8.0 ^b	L1

^a The full range of ACE HPLC/UHPLC columns is available with 1.7µm, 2µm, 3µm, 5µm and 10µm particle sizes and a wider range of stationary phase options.

^b For optimum column lifetime, a pH range of 2-8 is recommended. To increase column lifetime at mid/high pH, organic buffers, low buffer concentrations, high % organic solvent and low temperatures must be considered. Further information is contained within "A Guide to HPLC and LC/MS Buffer Selection" by John Dolan – contact VWR to request your FREE copy.

Figure 3 - ACE Equivalence can be used as a Cost Effective Replacement to Many Leading and Legacy Column Brands



Column Dimensions: 150 x 4.6mm ¹ 3µm, ² 3.5µm
 Sample: 1) procainamide 2) amiloride 3) caffeine 4) methylphenyl sulfoxide 5) propiophenone
 Mobile Phase: A = 20mM KH₂PO₄, pH 2.7 (aq) B = 20mM KH₂PO₄, pH 2.7 in 65:35 v/v MeCN:H₂O Gradient: 5 - 100% B in 18 minutes
 Flow Rate: 1.00ml/min Temperature: 40°C Wavelength: 214nm

Comparative data may not be representative of all applications. Please see back page for acknowledgement of trademarks.

ACE Equivalence C18

A recommended alternative to the following leading and legacy column brands:


(Manufacturers' original part numbers are shown in the table below. ACE Equivalence columns are also available in additional dimensions - please enquire for further details).

Column Brand	Manufacturer	3µm	3µm	3µm	5µm	5µm
		4.6 x 50mm	4.6 x 100mm	4.6 x 150mm	4.6 x 150mm	4.6 x 250mm
ACE Equivalence C18 Guard Cartridge - 5 pack ¹	ACT	10829-208 10829-200	10829-210 10829-200	10829-212 10829-200	10829-196 10829-202	10829-198 10829-202
Acclaim 120 C18	Thermo Scientific	059131	059132	059133	059148	059149
Alltima HP C18	Grace	87826	87667	87668	87679	87680
Alltima HP C18 Hi-Load	Grace	87827	87685	87686	87697	87698
Ascentis C18	Supelco	581320-U	581321-U	581322-U	581324-U	581325-U
Discovery C18	Supelco	-	-	-	504955	504971
Discovery HS C18	Supelco	569250-U	-	569252-U	568522-U	568523-U
Epic C18	ES Industries	115191-EC18	125191-EC18	135191-EC18	135291-EC18	155291-EC18
Epic C18-MS	ES Industries	115191-EC18-MS	125191-EC18-MS	135191-EC18-MS	135291-EC18-MS	155291-EC18-MS
Epic C18-SD	ES Industries	115191-EC18-SD	125191-EC18-SD	135191-EC18-SD	135291-EC18-SD	155291-EC18-SD
GraceSmart C18	Grace	5141811	5141753	5141752	5138812	5138810
Hypersil ODS	Thermo Scientific	30103-054630	30103-104630	30103-154630	30105-154630	30105-254630
Hypersil BDS C18	Thermo Scientific	28103-054630	28103-104630	28103-154630	28105-154630	28105-254630
Hypersil HyPURITY C18	Thermo Scientific	22103-054630	22103-104630	22103-154630	22105-154630	22105-254630
Inertsil ODS	GL Sciences	-	-	-	5020-02124	5020-02128
Inertsil ODS-2	GL Sciences	-	-	-	5020-01124	5020-01128
Inertsil ODS-3	GL Sciences	5020-01774	5020-01775	5020-01771	5020-01731	5020-01732
Inertsil ODS-3V	GL Sciences	5020-30142	5020-30144	5020-30145	5020-01801	5020-01802
Inertsil ODS-4	GL Sciences	5020-04042	5020-04044	5020-04045	5020-03945	5020-03946
Inertsil ODS-4V	GL Sciences	5020-30242	5020-30244	5020-30245	5020-10901	5020-10902
InertSustain C18	GL Sciences	5020-07442	5020-07444	5020-07445	5020-07345	5020-07346
Luna C18(2)	Phenomenex	00B-4251-E0	00D-4251-E0	00F-4251-E0	00G-4252-E0	00G-4252-E0
Nucleosil 100 C18	Macherey-Nagel	-	720841.46	720949.46	720120.46	720014.46
Nucleosil 120 C18	Macherey-Nagel	-	720149.46	720740.46	720730.46	720041.46
Nucleosil C18 HD	Macherey-Nagel	-	-	720193.46	720294.46	720280.46
Nucleodur C18 Gravity	Macherey-Nagel	760080.46	760084.46	760083.46	760103.46	760101.46
Nucleodur C18 ec	Macherey-Nagel	760050.46	760054.46	760053.46	760008.46	760002.46
Prevail C18	Grace	43829	99202	99204	99208	99210
Prodigy ODS-2	Phenomenex	-	-	-	00F-3300-E0	00G-3300-E0
Prodigy ODS-3	Phenomenex	-	00D-4222-E0	00F-4222-E0	00F-4097-E0	00G-4097-E0
Prodigy ODS-3V	Phenomenex	-	-	00F-4243-E0	00F-4241-E0	00G-4241-E0
SunFire C18 ²	Waters	186002551	186002553	186002554	186002559	186002560
Supelcosil LC-18	Supelco	58973	-	58985	58230-U	58298
Supelcosil LC-18 DB	Supelco	-	-	58993	58348	58355-U
Synchris C18	Thermo Scientific	97103-054630	97103-104630	97103-154630	97105-154630	97105-254630
Symmetry C18 ²	Waters	WAT200625	WAT066220	WAT200632	WAT045905	WAT054275
Vision HT C18 HighLoad	Grace	5151973	5151972	5151971	5151970	5151920
Waters Spherisorb ODS1	Waters	PSS833411	PSS833412	PSS833413	PSS830613	PSS830615
Waters Spherisorb ODS2	Waters	PSS832111	PSS832112	PSS832113	PSS831913	PSS831915
YMC ODS-A	YMC	AA12S03-0546WT	AA12S03-1046WT	AA12S03-1546WT	AA12S05-1546WT	AA12S05-2546WT
YMC ODS-AM	YMC	AM12S03-0546WT	AM12S03-1046WT	AM12S03-1546WT	AM12S05-1546WT	AM12S05-2546WT
YMC Pro C18	YMC	AS12S03-0546WT	AS12S03-1046WT	AS12S03-1546WT	AS12S05-1546WT	AS12S05-2546WT
Zorbax Eclipse XDB-C18 ²	Agilent	935967-902	961967-902	963967-902	993967-902	990967-902
Zorbax Eclipse Plus C18 ²	Agilent	959943-902	959961-902	959963-902	959993-902	959990-902
Zorbax ODS	Agilent	-	-	-	883952-702	880952-702
Zorbax Rx-C18 ²	Agilent	-	861967-902	863967-902	883967-902	880967-902
Zorbax SB-C18 ²	Agilent	835975-902	861953-902	863953-902	883975-902	880975-902

¹ Use with stand alone cartridge holder 10829-204 and coupler 10829-206.

² 3.5µm particle size available instead of 3µm.

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ACE Equivalence[™]
HPLC Columns

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