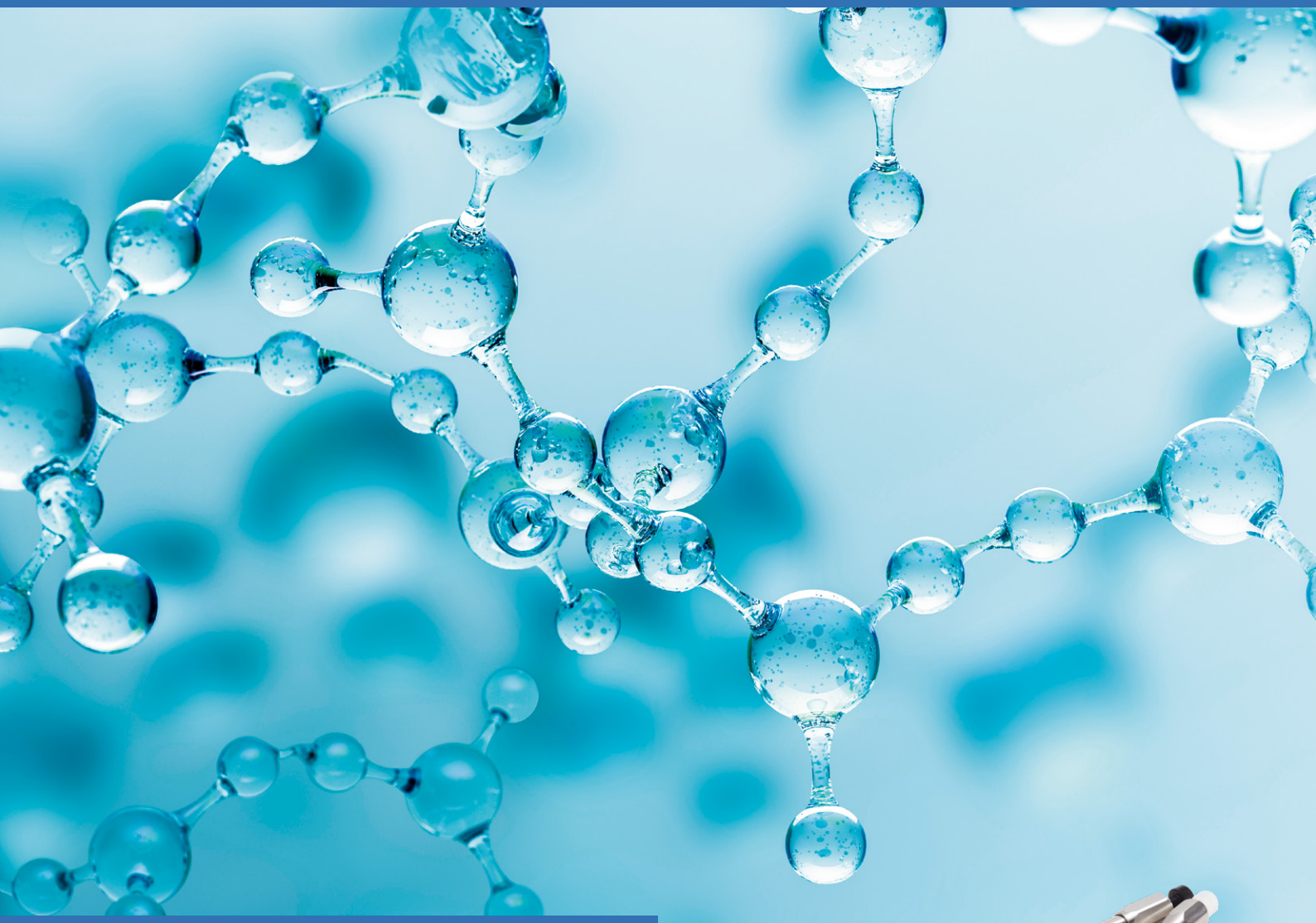
GL Sciences

HPLC, LC/MS Columns

InertSustain C18



The First Choice ODS Column

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It is high inertness, low adsorption, and wide pH range.

InertSustain C18

InertSustain C18 inherits the advantages of all current Inertsil HPLC columns (e.g., extremely low operating back pressure, superior inertness to almost all analytes, high efficiency, and compatibility with a wide range of solvents) while additionally enabling wide pH analysis with consistent column-to-column and lot-to-lot performance.

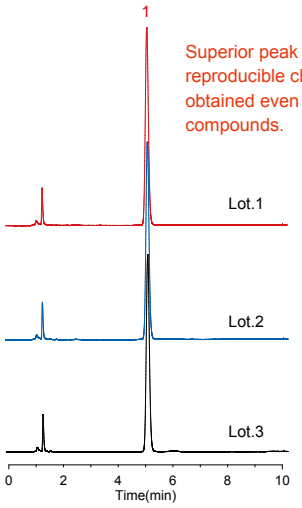
In general, silica based columns are mechanically stable and highly efficient but cannot be used under alkaline conditions as their residual silanol groups tend to adsorb organic bases. InertSustain C18 employs a radically new type of silica that is uniquely surface-modified for precise control of the silica properties.

- **Base Material : High Purity ES Silica Gel**
- **Particle Size : 2 µm, 3 µm, 3.5 µm, 4 µm, 5 µm, 7 µm, 10 µm**
- **Surface Area : 350 m^2/g**
- **Pore Size : 100 Å (10 nm)**
- **Pore Volume : 0.85 mL/g**
- **Functional Group : Octadecyl**
- **End-capping : Yes**
- **Carbon Loading : 14 %**
- **USP Code : L1**
- **pH Range : 1 - 10**

Reliable Reproducibility, Performance and Quality

Rigorous quality control of physical properties and strict chromatographic tests for inertness and selectivity, contribute to the production of InertSustain C18 with an outstanding reproducibility and long column lifetime.

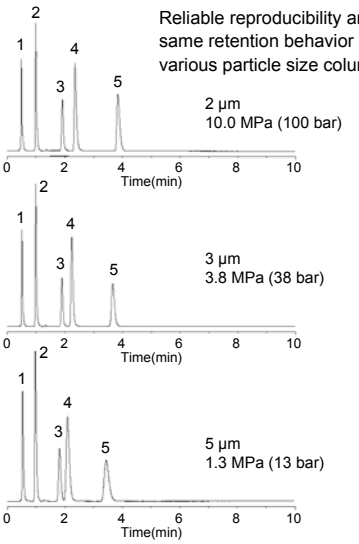
Strong Basic Compound Test



Superior peak shape with highly reproducible chromatograms can be obtained even for those strong basic compounds.

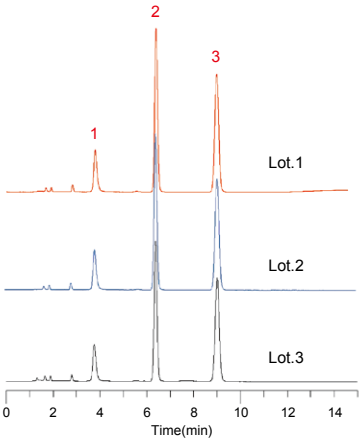
Conditions
Column Size : 5 µm, 250 × 4.6 mm I.D.
Eluent : A) CH_3CN
B) 25 mM phosphate buffer (pH 7.0)
A / B = 40 / 60, v / v
Flow Rate : 1.0 mL / min
Col. Temp. : 40 °C
Detection : UV 220 nm
Sample : 1. Dextromethorphan

Same Retention Behavior between Various Particle Sizes



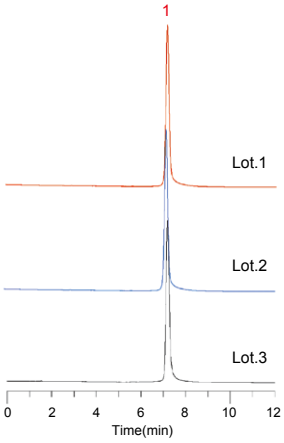
Conditions
Column Size : 50 × 2.1 mm I.D.
Eluent : A) CH_3OH
B) 25 mM phosphate buffer (pH 7.0)
A / B = 30 / 70, v / v
Flow Rate : 0.2 mL / min
Col. Temp. : 40 °C
Detection : UV 230 nm
Sample : 1. Uracil
2. Pyridine
3. Phenol
4. Berberine chloride
5. Dextromethorphan

Strong Acidic Compound Test



Conditions
Column Size : 5 µm, 150 × 4.6 mm I.D.
Eluent : A) CH_3CN
B) 0.1 % H_3PO_4
A / B = 25 / 75, v / v
Flow Rate : 1.0 mL / min
Col. Temp. : 40 °C
Detection : UV 254 nm
Sample : 1. Brilliant Blue FCF
2. Phenol
3. Salicylic acid

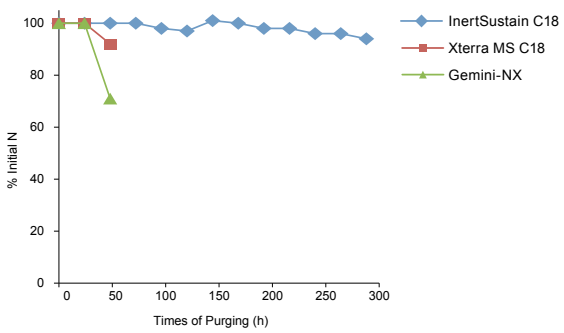
Strong Chelating Compound Test



Conditions
Column Size : 5 µm, 150 × 4.6 mm I.D.
Eluent : A) CH_3CN
B) 0.1 % H_3PO_4
A / B = 40 / 60, v / v
Flow Rate : 1.0 mL / min
Col. Temp. : 40 °C
Detection : UV 254 nm
Sample : 1. Hinokitiol

Wide pH Compatibility with Long Column Lifetime

As shown in the experiment below, due to the introduction of Evolved Surface Silica, InertSustain C18 maintained high efficiency and peak shape for 300 hours while other “wide pH” column brands failed.

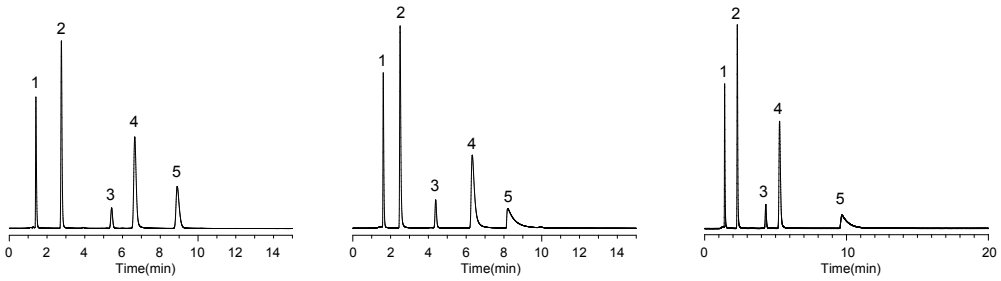


Purging Conditions
Column Size : 5 µm, 150 × 4.6 mm I.D.
Eluent : A) CH_3OH
B) 50 mM Triethylamine (pH 10.0)
A/B = 30/70, v/v
Flow Rate : 1.0 mL/min
Col. Temp. : 50 °C

Analytical Conditions
Eluent : A) CH_3CN
B) H_2O
A/B = 65/35, v/v
Flow Rate : 1.0 mL/min
Col. Temp. : 40 °C
Detection : UV 254 nm
Sample : Naphthalene

Column Performance Comparison

Basic Compounds

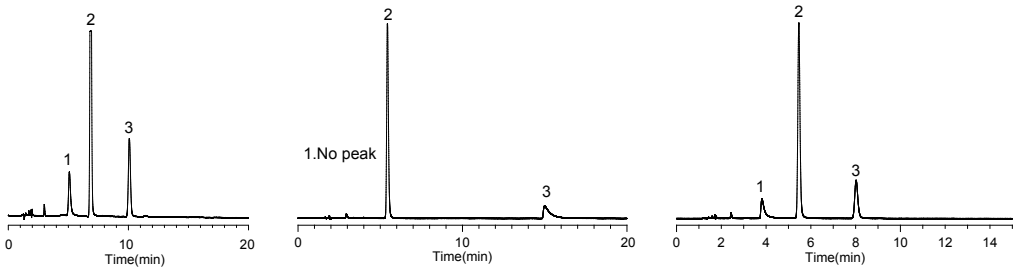


InertSustain C18 | X SELECT CSH C18 | ZORBAX Eclipse Plus C18

Conditions

Column Size	: 3 µm, 150 × 2.1 mm I.D.
Eluent	: A) CH_3CN
	B) 25 mM K_2HPO_4
	(pH 7.0, KH_2PO_4)
	A/B = 30/70, v/v
Flow Rate	: 0.2 mL/min
Col. Temp.	: 40 °C
Detection	: UV 230 nm
Sample	: 1. Uracil
	2. Pyridine
	3. Phenol
	4. Berberine chloride
	5. Dextromethorphan

Acidic Compounds

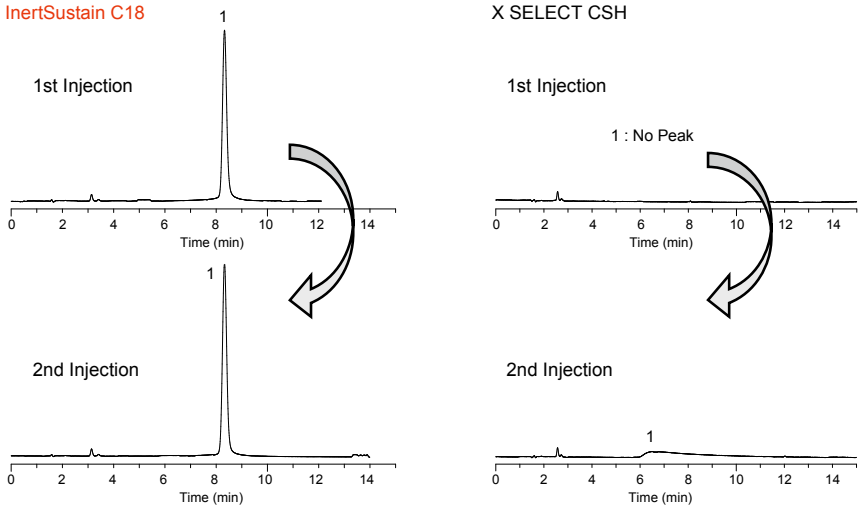


InertSustain C18 | X SELECT CSH C18 | ZORBAX Eclipse Plus C18

Conditions

Column Size	: 3 µm, 150 × 2.1 mm I.D.
Eluent	: A) CH_3CN
	B) 0.1 % H_3PO_4
	A/B = 25/75, v/v
Flow Rate	: 0.2 mL/min
Col. Temp.	: 40 °C
Detection	: UV 254 nm
Sample	: 1. Brilliant Blue FCF
	2. Phenol
	3. Salicylic acid

Chelating Compounds



Conditions

Column Size	: 5 µm, 150 × 4.6 mm I. D.
Eluent	: A) CH_3CN
	B) 0.1 % H_3PO_4
	A / B = 40 / 60, v / v
Flow Rate	: 1.0 mL / min
Col. Temp.	: 40 °C
Detection	: UV 254 nm
Sample	: 1. Hinokitiol

Please refer to our website for complete list of our columns.

https://www.glsciences.com/product/lc_columns/c18_column/01708.html

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Published in Japan, December 31, 2024
LCBR0501E