

Ion Exchange Columns

• Inertsil® AX	078
• Inertsil® CX	080

Inertsil® AX

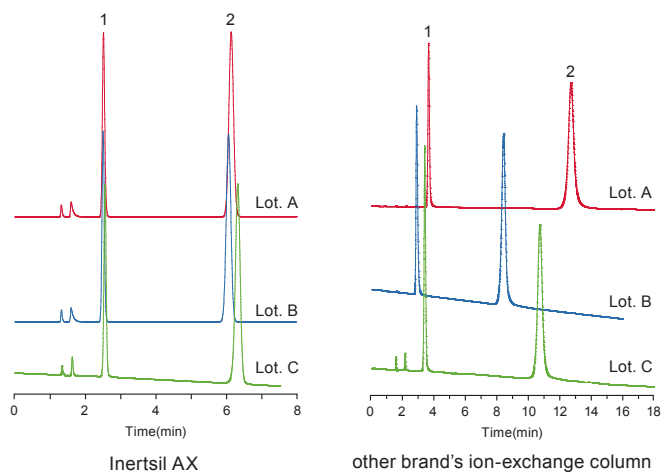
Physical Properties

- Silica : 3 Series High Purity Silica Gel
- Particle Size : 5 μm
- Surface Area : 450 m²/g
- Pore Size : 100 Å (10 nm)
- Pore Volume : 1.05 mL/g
- Bonded Phase : Diethylaminopropyl Groups
- End-capping : None
- Carbon Loading : 17 %
- AEC : 0.4 meq/g
- USP Code : -
- pH Range : 2 ~ 7.5



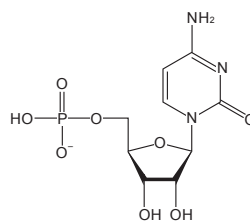
Inertsil AX has diethylamino groups bonded to silica gel by an alkyl chain. The diethylamino groups offer anionic functions required for anion exchange chromatography. It is mainly used for analyses of acidic compounds. Conventional ion-exchange columns used to show inconsistent results from lot to lot. However, Inertsil AX is manufactured under strict quality control in order to offer excellent lot-to-lot reproducibility. The retentivity of Inertsil AX is influenced by the concentration of buffer. The retention time can be adjusted by the concentration of buffer (Refer to Fig. 2).

Figure 1 : Comparison of lot-to-lot reproducibility with other brands

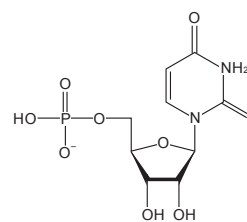


Conditions

Column Size : 5 μm, 150 × 4.6 mm I.D.
 Eluent : 60 mM KH₂PO₄ (pH 3.0, H₃PO₄)
 Flow Rate : 1.0 mL/min
 Col. Temp. : 40 °C
 Detection : UV 254 nm
 Injection Vol. : 1 μL
 Sample : 1. Cytidine 5'-monophosphate (CMP)
 2. Uridine 5'-monophosphate (UMP)

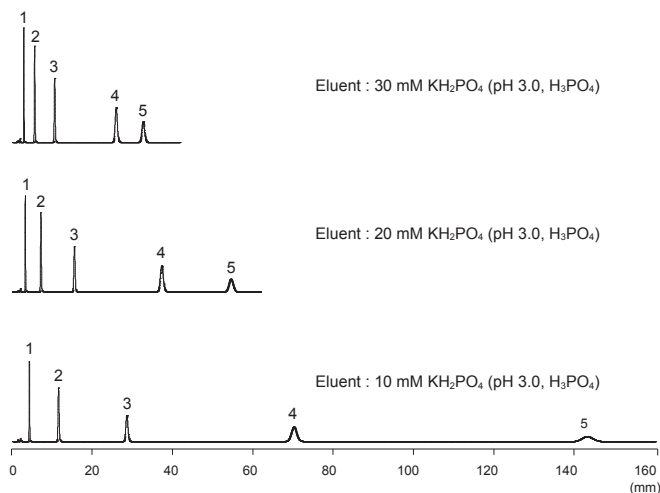


Cytidine 5'-monophosphate (CMP)



Uridine 5'-monophosphate (UMP)

Figure 2 : Effect of buffer concentration in eluent



Conditions

Column : Inertsil AX (5 μm, 150 × 4.6 mm I.D.)
 Flow Rate : 1.0 mL/min
 Col. Temp. : 40 °C
 Detection : UV 254 nm
 Injection Vol. : 10 μL
 Sample : 1. Cytidine 5'-monophosphate (CMP)
 2. Adenine 5'-monophosphate (AMP)
 3. Uridine 5'-monophosphate (UMP)
 4. Guanosine 5'-monophosphate (GMP)
 5. Xanthosine 5'-monophosphate (XMP)

Analytical Columns

Particle Size: 5 µm	Length \ I.D. (mm)		1.0		1.5					
	33		5020-80111	5020-80121						
	50		5020-80112	5020-80122						
	75		5020-80113	5020-80123						
	100		5020-80114	5020-80124						
	150		5020-80115	5020-80125						
	250		5020-80116	5020-80126						
	Length \ I.D. (mm)		2.1		3.0		4.0		4.6	
	33		5020-07211	5020-07221	5020-07231	5020-07241				
	50		5020-07212	5020-07222	5020-07232	5020-07242				
75		5020-07213	5020-07223	5020-07233	5020-07243					
100		5020-07214	5020-07224	5020-07234	5020-07244					
150		5020-07215	5020-07225	5020-07235	5020-07245					
250		5020-07216	5020-07226	5020-07236	5020-07246					

* End-fittings are 1/16" Waters-compatible.

* For maximum operating pressure information, please refer to page 46.

Cartridge Guard Column E

I.D. of the Analytical Column Applicable (mm)	Length (mm)	I.D. (mm)	Replacement Cartridge E Guard Column (2 EA.)		Cartridge E Holder / Cartridge Set (2 Cartridge E Guard Columns & 1 Holder)	
			Particle Size		Particle Size	
			5 µm		5 µm	
1.0	10	1.0	5020-19233		5020-19283	
1.5, 2.1		1.5	5020-19333		5020-19383	
2.1, 3.0		3.0	5020-19133		5020-19183	
4.0, 4.6		4.0	5020-19033		5020-19083	
2.1, 3.0	20	3.0	5020-19533		5020-19583	
4.0, 4.6		4.0	5020-19433		5020-19483	
Holder for Cartridge Guard Column E			For 10 mm Length		5020-08500	
			For 20 mm Length		5020-08550	

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* For maximum operating pressure information, please refer to page 46.

Reversed Phase Columns

HILIC Columns

Normal Phase Columns

SEC Columns

Ion Exchange Columns

Application Specific Columns

Guard Columns

Preparative Columns

Capillary Columns

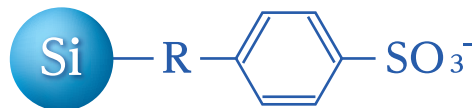
Applications

Cat. No. Index

Inertsil® CX

Physical Properties

- Silica : 3 Series High Purity Silica Gel
- Particle Size : 5 µm
- Surface Area : 450 m²/g
- Pore Size : 100 Å (10 nm)
- Pore Volume : 1.05 mL/g
- Bonded Phase : Benzenesulfonyl Groups
- End-capping : None
- Carbon Loading : 14 %
- CEC : 0.5 meq/g
- USP Code : L9
- pH Range : 2 ~ 7.5



Inertsil CX has benzenesulfonyl groups bonded to silica gel by an alkyl chain. The sulfony groups at the end of the structure offer cationic functions required for the cation exchange chromatography. It is mainly used for analyses of basic compounds. Inertsil CX is manufactured under strict quality control in order to offer excellent lot-to-lot reproducibility as the same as Inertsil AX. Inertsil CX has high ion exchange capacity and provides high retentivity and selectivity. Therefore, it is also suited for analyzing amino acids and nucleobases shown in Fig. 2 and Fig. 3

Figure 1 : Comparison of lot-to-lot reproducibility with other brands

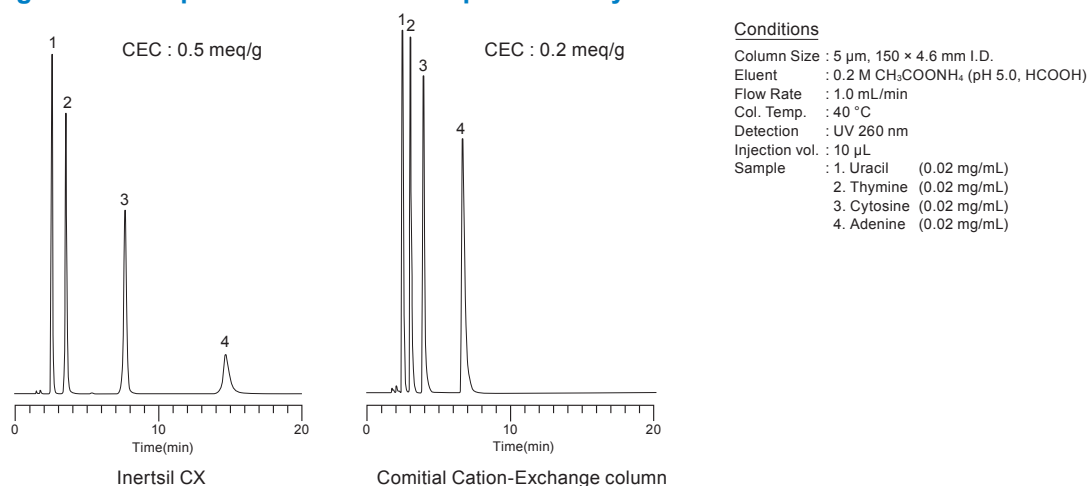


Figure 2 : Biogenic Amine Analysis

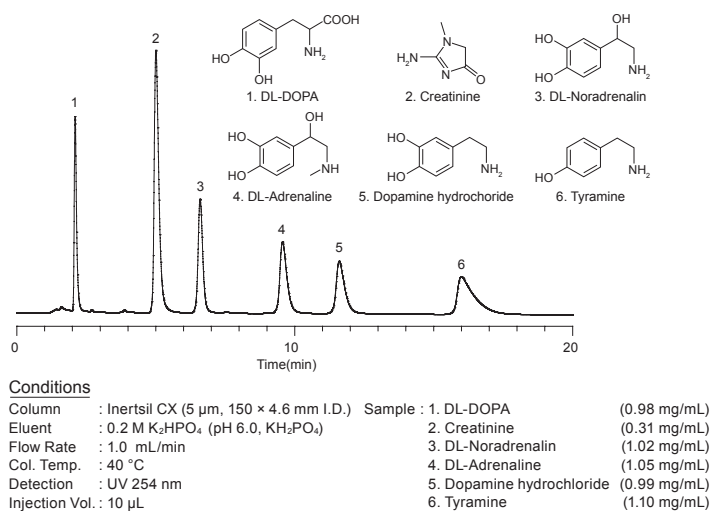
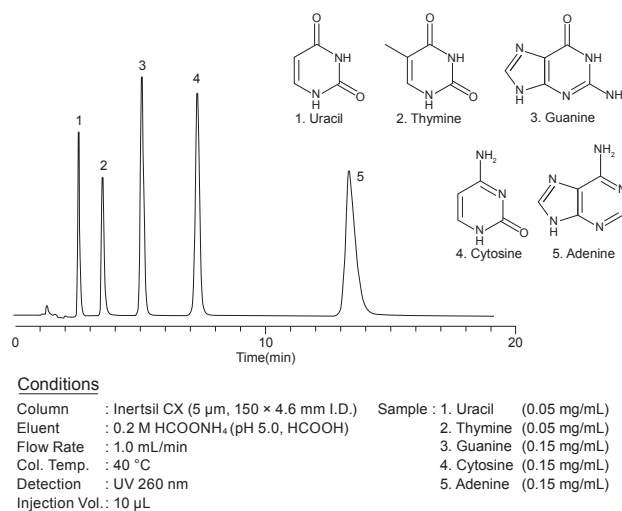


Figure 3 : Nucleoside Analysis



Analytical Columns

Particle Size: 5 µm	Length \ I.D. (mm)	1.0	1.5		
	33	5020-80011	5020-80021		
	50	5020-80012	5020-80022		
	75	5020-80013	5020-80023		
	100	5020-80014	5020-80024		
	150	5020-80015	5020-80025		
	250	5020-80016	5020-80026		
	Length \ I.D. (mm)	2.1	3.0	4.0	4.6
	33	5020-07111	5020-07121	5020-07131	5020-07141
	50	5020-07112	5020-07122	5020-07132	5020-07142
	75	5020-07113	5020-07123	5020-07133	5020-07143
100	5020-07114	5020-07124	5020-07134	5020-07144	
150	5020-07115	5020-07125	5020-07135	5020-07145	
250	5020-07116	5020-07126	5020-07136	5020-07146	

* End-fittings are 1/16" Waters-compatible.

* For maximum operating pressure information, please refer to page 46.

Cartridge Guard Column E

I.D. of the Analytical Column Applicable (mm)	Length (mm)	I.D. (mm)	Replacement Cartridge E Guard Column (2 EA.)	Cartridge E Holder / Cartridge Set (2 Cartridge E Guard Columns & 1 Holder)
			Particle Size	Particle Size
			5 µm	5 µm
1.0	10	1.0	5020-19234	5020-19284
1.5, 2.1		1.5	5020-19334	5020-19384
2.1, 3.0		3.0	5020-19134	5020-19184
4.0, 4.6		4.0	5020-19034	5020-19084
2.1, 3.0	20	3.0	5020-19534	5020-19584
4.0, 4.6		4.0	5020-19434	5020-19484
Holder for Cartridge Guard Column E			For 10 mm Length	5020-08500
			For 20 mm Length	5020-08550

* End-fittings are 1/16" Waters-compatible.

* For maximum operating pressure information, please refer to page 46.

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HILIC Columns

Normal Phase Columns

SEC Columns

Ion Exchange Columns

Application Specific Columns

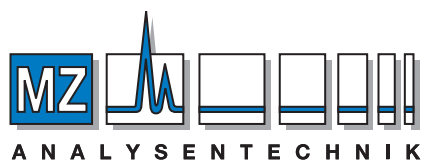
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Capillary Columns

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