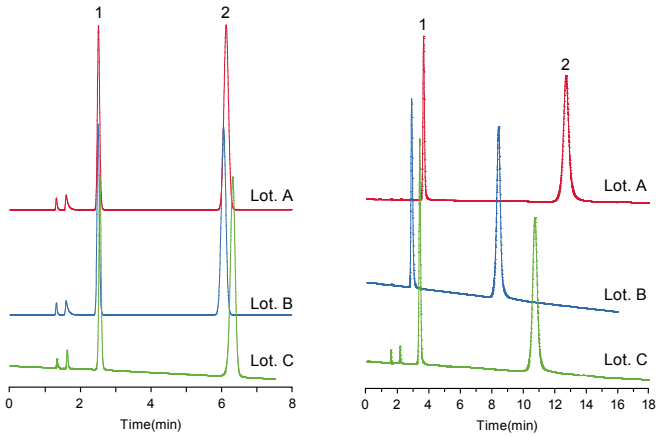
Inertsil® AX

Physical Properties

- **Silica** : **3 Series High Purity Silica Gel**
- **Particle Size** : **5 µm**
- **Surface Area** : **450 m^2/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

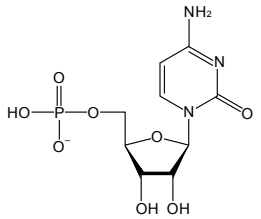


Inertsil AX

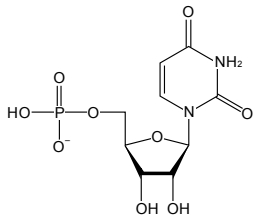
other brand's ion-exchange column

Conditions

Column Size : 5 µm, 150 × 4.6 mm I.D.
Eluent : 60 mM KH_2PO_4 (pH 3.0, H_3PO_4)
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)

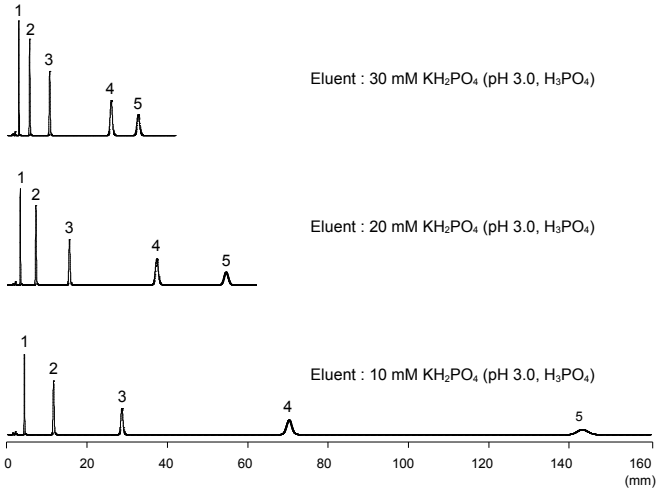


Cytidine 5'-monophosphate (CMP)



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

	Length \ I.D. (mm)	1.0	1.5		
Particle Size: 5 µm	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

* End-fittings are 1/16" Waters-compatible.
* For maximum operating pressure information, please refer to page 46.