



COSMOSIL

Octadecyl Bonded HPLC Column

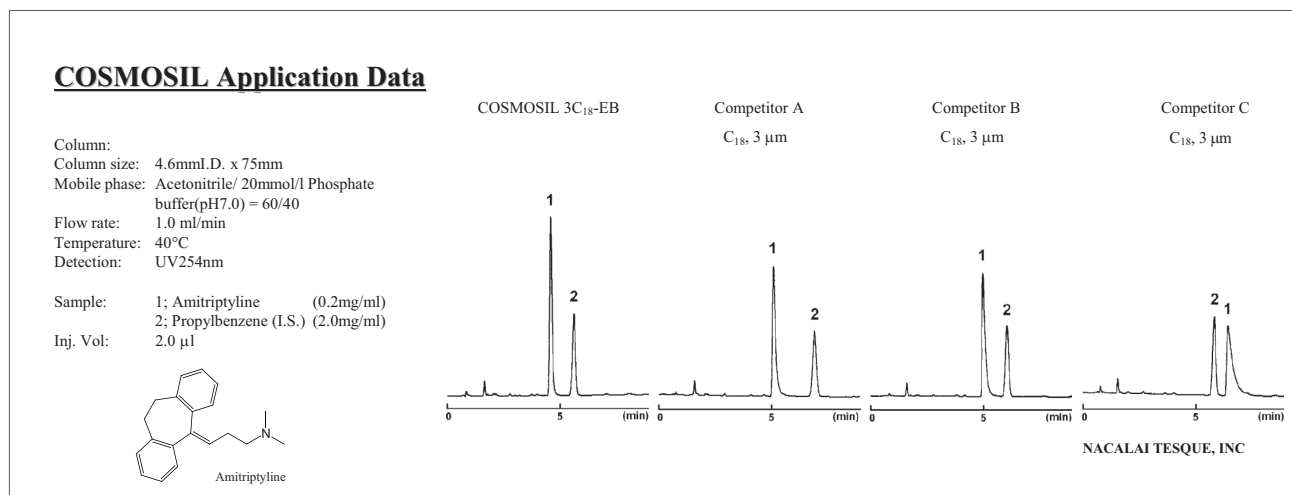
COSMOSIL 3C₁₈-EB

- **Excellent for Basic compounds**
- **Suitable for drug analysis**

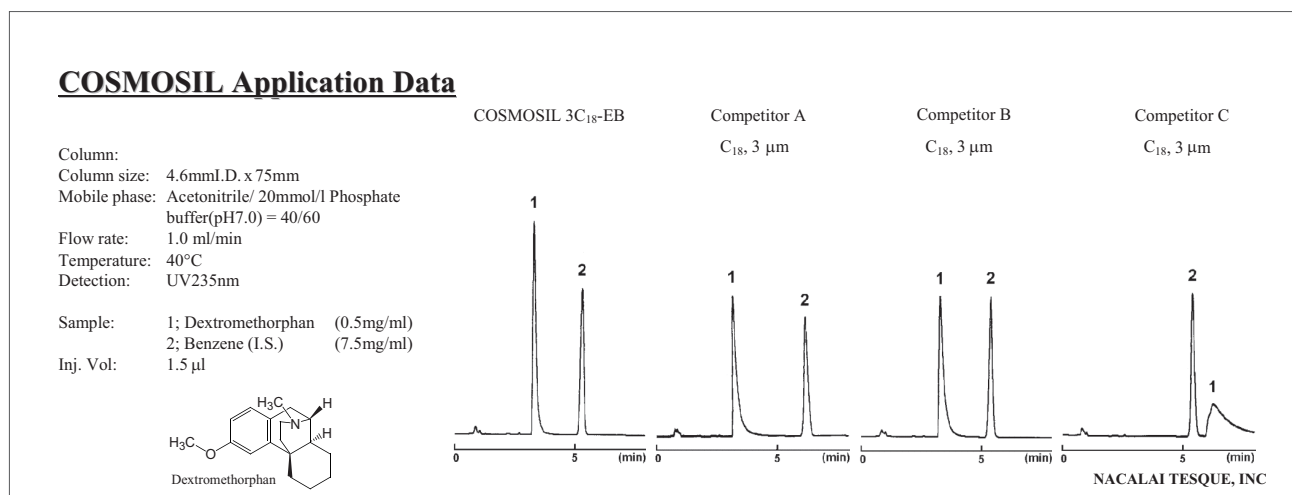
Analysis of Basic Compounds

Conventionally end-capped C₁₈ columns still have many residual silanol groups on the silica surface of stationary phase that can form ionic bonds with basic compounds. The resulting peak tailing makes accurate quantification of analytes difficult, especially in trace analyses. COSMOSIL 3C₁₈-EB with a better end-capping treatment offers improved peak shape and separation particularly for basic compounds.

Basic Compounds (Amitriptyline)



Basic Compounds (Dextromethorphan)



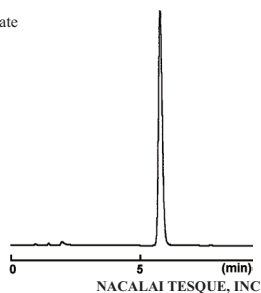
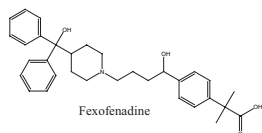
Applications of Drugs with Simple Mobile Phase Conditions

• Histamine H1 Receptor Antagonists (Fexofenadine)

COSMOSIL Application Data

Column: 3C₁₈-EB
Column size: 4.6mm I.D.-75mm
Mobile phase: Methanol/ 20mmol/l Phosphate buffer(pH2.5) = 50/50
Flow rate: 1.0 ml/min
Temperature: 40°C
Detection: UV220nm

Sample: Fexofenadine (0.2mg/ml)
Inj.Vol.: 1.0µl



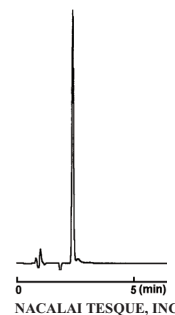
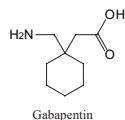
AP-1227

• Anticonvulsants (Gabapentin)

COSMOSIL Application Data

Column: 3C₁₈-EB
Column size: 4.6mm I.D.-75mm
Mobile phase: Methanol/ 20mmol/l Phosphate buffer(pH7.0) = 20/80
Flow rate: 1.0 ml/min
Temperature: 40°C
Detection: UV210nm

Sample: Gabapentin (5.0mg/ml)
Inj.Vol.: 2.0µl



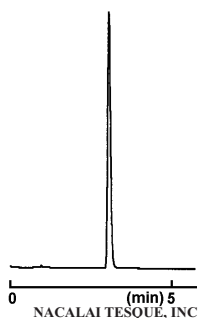
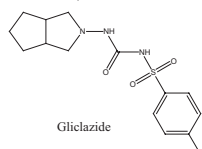
AP-1230

• Hypoglycemic Agents (Gliclazide)

COSMOSIL Application Data

Column: 3C₁₈-EB
Column size: 4.6mm I.D.-75mm
Mobile phase: Methanol/ 20mmol/l Phosphate buffer(pH7.0) = 50/50
Flow rate: 1.0 ml/min
Temperature: 40°C
Detection: UV254nm

Sample: Gliclazide (1.0mg/ml)
Inj.Vol.: 1.0µl



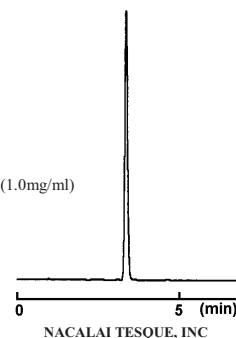
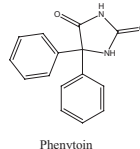
AP-1225

• Antiarrhythmic Drugs (Phenytoin)

COSMOSIL Application Data

Column: 3C₁₈-EB
Column size: 4.6mm I.D.-75mm
Mobile phase: Methanol/ 20mmol/l Phosphate buffer(pH7.0) = 50/50
Flow rate: 1.0 ml/min
Temperature: 40°C
Detection: UV254nm

Sample: Phenytoin [5,5-Diphenylhydantoin] (1.0mg/ml)
Inj.Vol.: 1.0µl



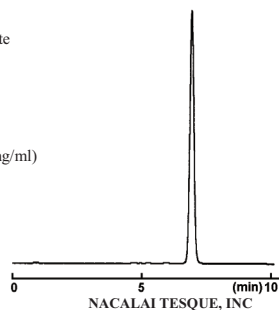
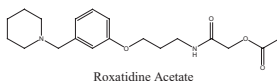
AP-1226

• H2 Blockers (Roxatidine Acetate)

COSMOSIL Application Data

Column: 3C₁₈-EB
Column size: 4.6mm I.D.-75mm
Mobile phase: Methanol/ 20mmol/l Phosphate buffer(pH7.0) = 50/50
Flow rate: 1.0 ml/min
Temperature: 40°C
Detection: UV274nm

Sample: Roxatidine Acetate (1.0mg/ml)
Inj.Vol.: 2.0µl



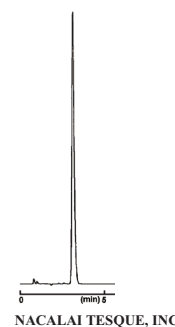
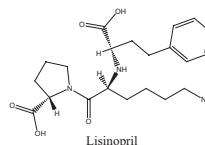
AP-1224

• ACE Inhibitors (Lisinopril)

COSMOSIL Application Data

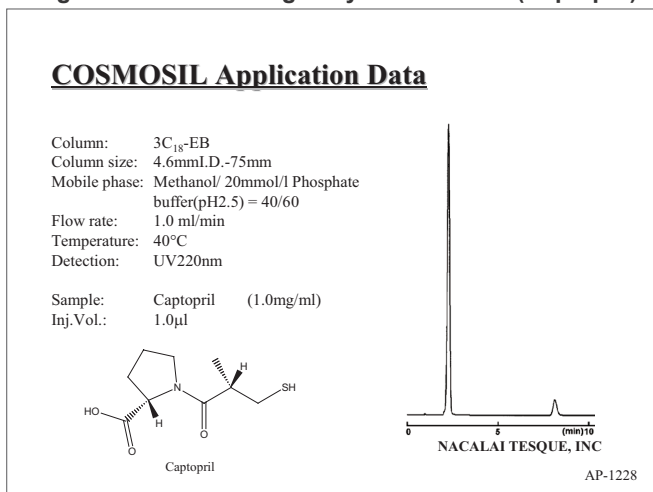
Column: 3C₁₈-EB
Column size: 4.6mm I.D.-75mm
Mobile phase: Methanol/ 20mmol/l Phosphate buffer(pH7.0) = 20/80
Flow rate: 1.0 ml/min
Temperature: 40°C
Detection: UV215nm

Sample: Lisinopril (1.0mg/ml)
Inj.Vol.: 0.5µl

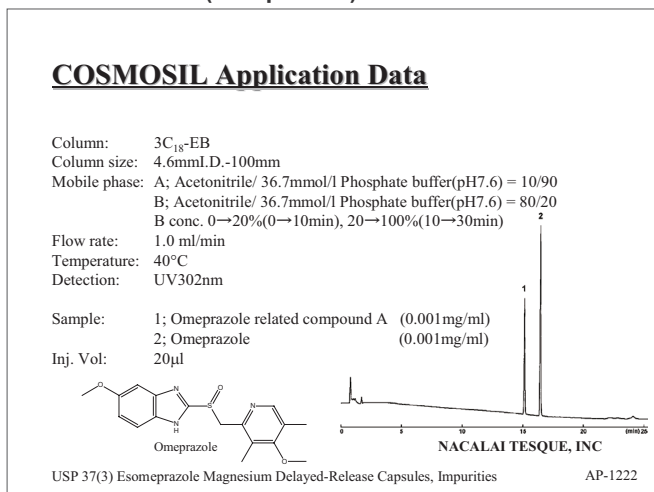


AP-1229

• Angiotensin Converting Enzyme Inhibitors (Captopril)



• USP Standards (Omeprazole)



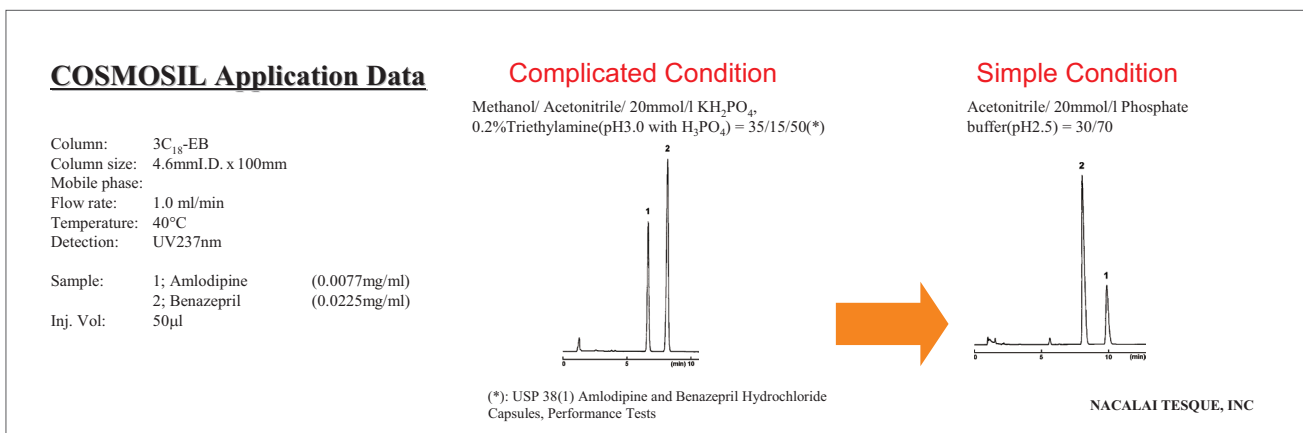
◆ Synthesis Reproducibility

If you use insufficiently end-capped C₁₈ columns for basic compound analyses, you may need to spend much time adjusting mobile phase conditions. You may need

- 1) more than 3 or more organic solvents or buffers
- 2) ion-pair reagents or additives
- 3) buffers in different pH

In addition, the complexity of the mobile phase often is detrimental to reproducibility. COSMOSIL 3C₁₈-EB with a new end-capping treatment allows good peak shape and separation using simple mobile phase conditions.

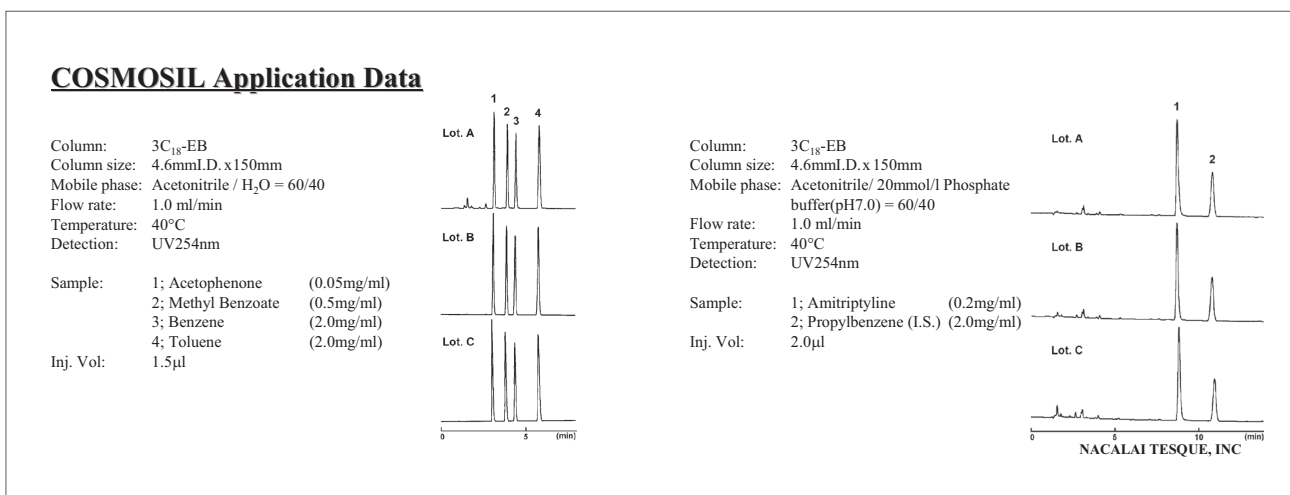
• Analysis with Simple Condition



◆ Routine Analysis

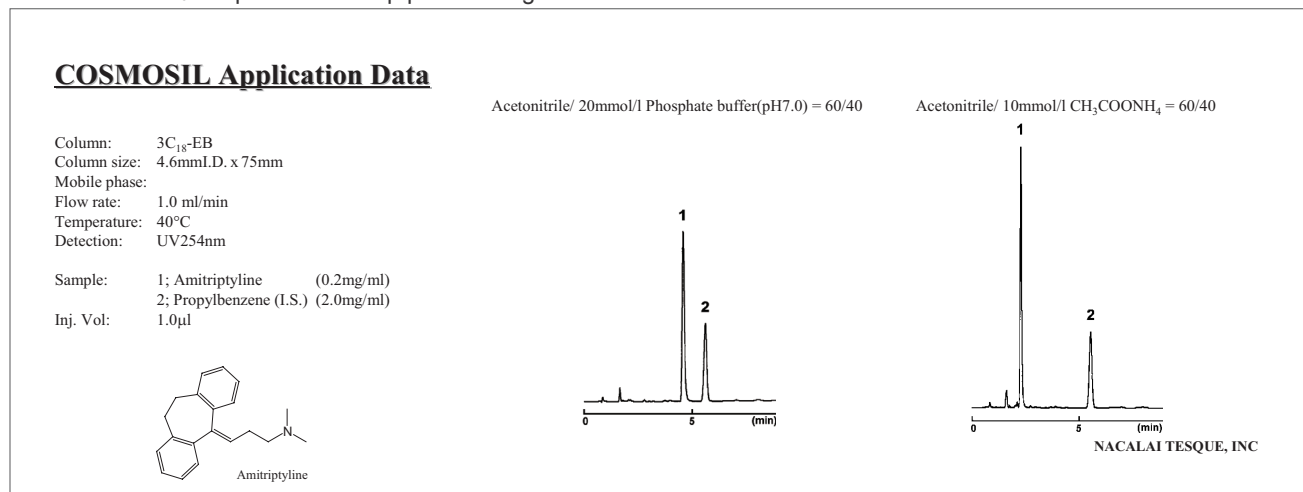
3C₁₈-EB has excellent synthesis reproducibility and column-to-column reproducibility, so it is applicable in routine analysis such as quality control of drugs.

• Excellent Synthesis Reproducibility



Analysis under Ammonium Acetate Buffer

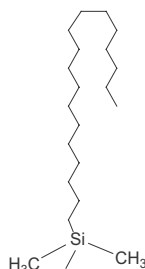
COSMOSIL 3C₁₈-EB produces sharp peaks using ammonium acetate buffer in LC-MS.



Specifications

Silica Gel	High Purity Porous Spherical Silica
Average Particle Size	3 µm
Average Pore Size	approx. 120 Å
Specific Surface Area	approx. 300 m ² /g
Stationary Phase	Octadecyl Group
Bonding Type	Monomeric
Main Interaction	Hydrophobic Interaction
End-capping Treatment	Near-perfect Treatment
pH Range	2-10*
Carbon Content	approx. 14.5%

*Optimum pH range of columns based on silica gel is between 2 and 7.5. Extreme pH may decrease column lifetime.



Octadecyl Group

Ordering Information

Product Name	Column Size	Product Number
COSMOSIL 3C ₁₈ -EB Packed Column	2.0 mm I.D. x 50 mm	09794-21
	2.0 mm I.D. x 75 mm	09795-11
	2.0 mm I.D. x 100 mm	09796-01
	2.0 mm I.D. x 150 mm	09797-91
	2.0 mm I.D. x 250 mm	09798-81
	3.0 mm I.D. x 50 mm	09799-71
	3.0 mm I.D. x 75 mm	09800-21
	3.0 mm I.D. x 100 mm	09811-81
	3.0 mm I.D. x 150 mm	09814-51
	3.0 mm I.D. x 250 mm	09827-91
	4.6 mm I.D. x 50 mm	09840-01
	4.6 mm I.D. x 75 mm*	09841-91
	4.6 mm I.D. x 100 mm*	09842-81
	4.6 mm I.D. x 150 mm*	09843-71
	4.6 mm I.D. x 250 mm	09844-61

Product Name	Column Size	Product Number
COSMOSIL 3C ₁₈ -EB Guard Column	4.6 mm I.D. x 10 mm	09839-41
COSMOSIL 3C ₁₈ -EB Guard Cartridge (2 PKG)**	2.0 mm I.D. x 10 mm	11892-74 NEW
	4.6 mm I.D. x 10 mm	11890-94 NEW

* Validated Columns (available in 3 different lots)

**Cartridge Holder is required.

Other size may be available. Please enquire.

• Related Products

Product Name	Column Size	Product Number
COSMOSIL Guard Cartridge Holder	2.0 mm I.D.	11884-71 NEW
	4.6 mm I.D.	38009-79

Validated Columns

3 different lots of packing materials are available for the following columns to demonstrate high reproducibility.

09841-91 (4.6 mm I.D. x 75 mm), 09842-81 (4.6 mm I.D. x 100 mm), 09843-71 (4.6 mm I.D. x 150 mm)

For research use only, not intended for diagnostic or drug use.



NACALAI TESQUE, INC.

Nijo Karasuma, Nakagyo-ku, Kyoto 604-0855 JAPAN

TEL : +81-(0)75-251-1730

FAX : +81-(0)75-251-1763

Website : www.nacalai.com

E-mail : info.intl@nacalai.com



AZOFBRNTA
 www.obrnutafaza.hr
 info@obrnutafaza.hr