

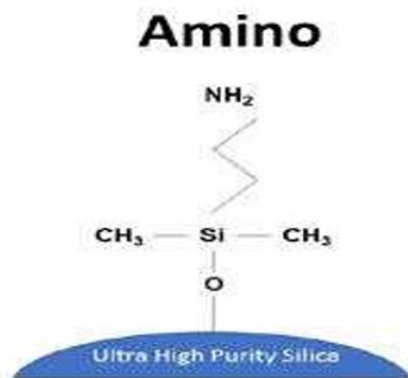
Caprisil NH₂ Series (NH₂-E / NH₂-G / NH₂-H)

NH₂ Amino Columns for Sugar and Polar Compound Analysis

The Caprisil NH₂ series is based on **ultrapure porous spherical silica gel** with a high bonding phase coverage.

Its bonded aminopropyl functional group allows application in **normal phase** and **reverse phase chromatography**, especially suitable for **carbohydrate, oligosaccharide, and polar compound separations**.

The NH₂ bonding provides unique selectivity compared to C18 or C8 columns but requires careful **pH and mobile phase control** to prevent hydrolysis .



Caprisil NH₂ Series (NH₂-E / NH₂-G / NH₂-H)

Key Features

- ❖ Chemically bonded silica matrix with aminopropyl functionality .
- ❖ Optimized for high-resolution sugar analysis (e.g., lactose, glucose) with excellent peak shape and column efficiency .
- ❖ Compatible with both polar and nonpolar eluents .
- ❖ Effective in normal phase separations and selective applications in reversed phase mode .
- ❖ Available in three variants (NH₂-E, NH₂-G, NH₂-H) to provide tailored selectivity through bonding density and end capping differences .

Morphchem Caprisil NH ₂ Series Columns vs Other Brands		
Feature	Caprisil NH ₂ (E/G/H)	Other Brands
Silica Base	High-purity, ultra-spherical porous silica with narrow particle size distribution	Broader distribution, lower purity
Bonding Technology	Advanced high-coverage bonding; low residual silanol activity	Lower bonding density → peak tailing
Dual-mode Compatibility	Supports both normal and reversed phase modes	Often limited to one mode
Selectivity Tuning	Three options (E, G, H) for flexible selectivity	Usually only one standard amino phase
Application Performance	Excellent sugar/carbohydrate separation, stable retention, sharp peaks	Retention drift, poor peak shape possible
Batch Reproducibility	Strict QC ensures high reproducibility	Variable between batches
Mobile Phase Stability	Tolerant to high acetonitrile and water proportions	Some degrade in aqueous-rich conditions
Durability & Lifetime	Extended life under dual-mode use	Shorter life due to deactivation

Caprisil NH ₂ Series (NH ₂ -E / NH ₂ -G / NH ₂ -H)				
Model	Bonding Features	Typical Use	Selectivity	Recommended Mode
NH ₂ -E	Standard aminopropyl bonding; moderate endcapping	Routine sugar & carbohydrate analysis (mono-, disaccharides like lactose, glucose)	Balanced polarity	Normal / Reversed phase
NH ₂ -G	High-density bonding; lightly endcapped	Oligosaccharides, sugar alcohols, highly polar compounds	Stronger interaction with polar analytes	Normal / Reversed phase
NH ₂ -H	High-density bonding with strong endcapping	Complex samples (food extracts, biological	Reduced silanol activity, stable peak shapes	Normal / Reversed phase

Caprisil NH₂ Series (NH₂-E / NH₂-G / NH₂-H)

Application Guidelines

Caprisil NH₂-E

- Use: Routine monosaccharide/disaccharide analysis
- Mode: Normal or reversed phase
- Advantages: Balanced retention, sharp peaks, reliable efficiency

Caprisil NH₂-G

- Use: Polar analytes, oligosaccharides, sugar alcohols
- Mode: Normal or reversed phase
- Advantages: Strong retention, enhanced separation of highly polar compounds

Caprisil NH₂ Series (NH₂-E / NH₂-G / NH₂-H)

Caprisil NH₂-H

- Use case: Best for complex matrices, such as food extracts or biological samples, where reproducibility and peak shape are critical.
- Mode: Suitable for both normal and reversed phase.
- Advantages: Reduced tailing due to effective endcapping, more stable under broader pH range.

General Notes

- All columns use ultrapure porous silica with bonded aminopropyl groups
- Hydrolysis Warning: Avoid aqueous-rich mobile phases below pH 3 (especially >50% water) to extend lifetime
- Compatible with high acetonitrile content systems for carbohydrate separations

Caprisil NH₂ Series (NH₂-E / NH₂-G / NH₂-H)

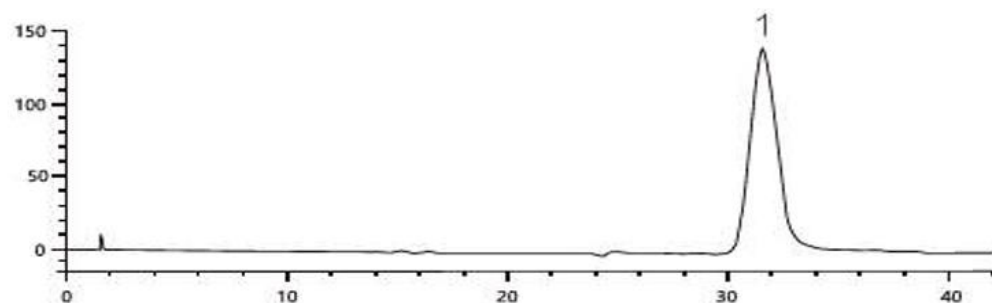
Why Choose Caprisil NH₂ Columns?

- ✓ Greater flexibility in method development due to multiple amino phase options .
- ✓ Superior reproducibility and batch consistency .
- ✓ Longer column life, especially in aqueous-organic mobile phases .
- ✓ Better resolution and peak shape for polar compounds like sugars .
- ✓ Strong technical support and customizable solutions from Morhchem .



Caprisil NH₂ Application

Acarbose



Column: Caprisil NH₂ 250x4.6 mm, 5 μ m

Mobile Phase: Phosphate buffer (KH_2PO_4 0.6g + Na_2HPO_4 0.279g, water to 1000ml) : Acetonitrile (25:75)

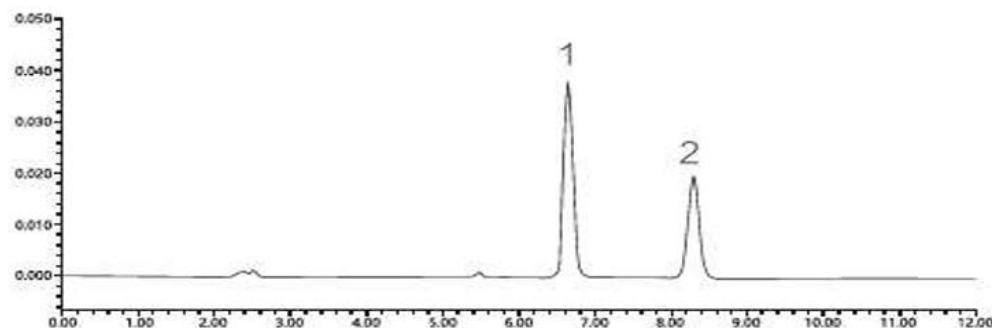
Flow Rate: 2 mL/min

Detector: UV@210nm

Injection Volume: 10 μ l

Samples: 1. Acarbose

α -aminopropionic acid, β -aminopropionic acid



Column: Caprisil NH₂ 250 $\times$ 4.6 mm, 5 μ m

Mobile Phase: Acetonitrile: 0.02mol/L KH_2PO_4 (60:40)

Flow Rate: 1 mL/min

Detector: UV@210nm

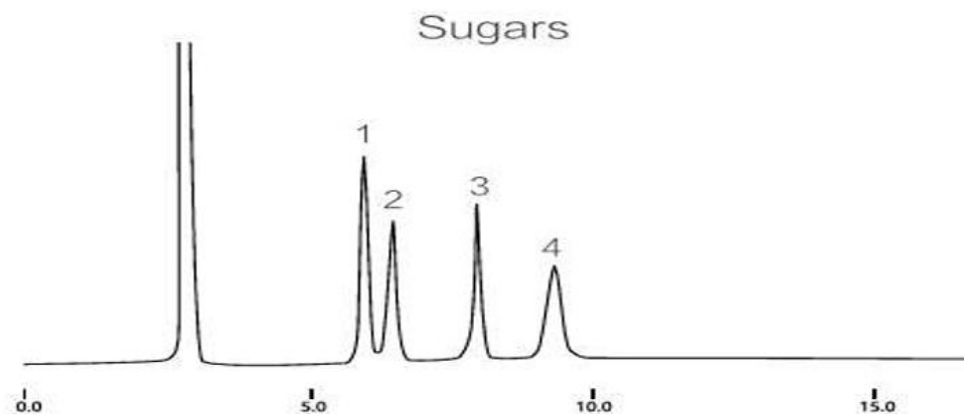
Injection Volume: 10 μ l

Samples: 1. α -aminopropionic acid

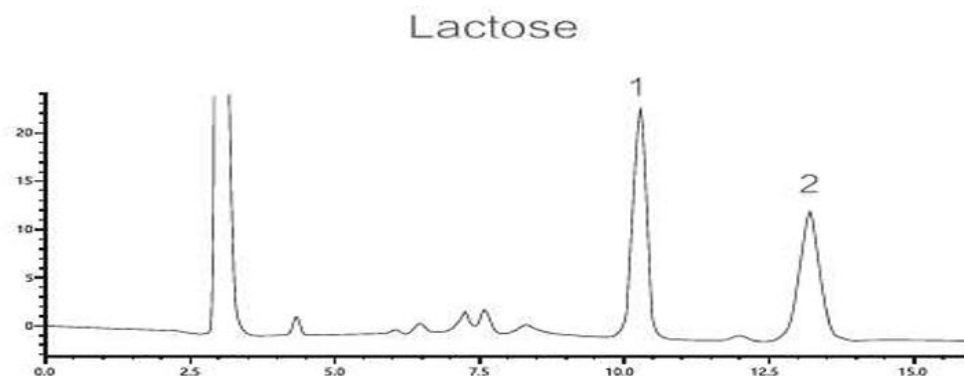
2. β -aminopropionic acid



Caprisil NH₂-H Application



Column: Caprisil NH₂-H 250x4.6 mm, 5 μ m
Mobile Phase: Acetonitrile: Water (70:30)
Flow Rate: 1 mL/min
Detector: RI
Injection Volume: 20 μ l
Samples: 1.Fructose 2.Glucose 3.Sucrose
4.Lactose



Column: Caprisil NH₂-H 250x4.6 mm, 5 μ m
Mobile Phase: Acetonitrile: Water (70:30)
Flow Rate: 1 mL/min
Detector: Ri @30°C
Injection Volume: 10 μ l
Samples: 1.Sucrose 2.Lactose

Caprisil NH₂ Series (NH₂-E / NH₂-G / NH₂-H)

Order information

5 μ m	50 $\times$ 4.6 mm	100 $\times$ 4.6 mm	150 $\times$ 4.6 mm	200 $\times$ 4.6 mm	250 $\times$ 4.6 mm
Caprisil NH ₂	CA553-A	CB553-A	CC553-A	CD553-A	CE553-A
Caprisil NH ₂ -H	CA553-AH	CB553-AH	CC553-AH	CD553-AH	CE553-AH
Caprisil NH ₂ -E	CA553-AE	CB553-AE	CC553-AE	CD553-AE	CE553-AE
Caprisil NH ₂ -D	CA553-AD	CB553-AD	CC553-AD	CD553-AD	CE553-AD

3 μ m	50 $\times$ 4.6 mm	100 $\times$ 4.6 mm	150 $\times$ 4.6 mm
Caprisil NH ₂	CA533-A	CB533-A	CC533-A
Caprisil NH ₂ -H	CA533-AH	CB533-AH	CC533-AH
Caprisil NH ₂ -E	CA533-AE	CB533-AE	CC533-AE
Caprisil NH ₂ -D	CA533-AD	CB533-AD	CC533-AD