



## Agilent AdvanceBio Amino Acid Analysis

### Achieve fast, sensitive, and reproducible separation of amino acids from biological samples

AdvanceBio AAA combines the latest column technologies with proven precolumn derivatization chemistry and application support from Agilent. Alongside Agilent InfinityLab LC Series instruments, AdvanceBio AAA provides a complete solution for amino acid analysis.

- Columns batch tested with AA standards to ensure quality and performance
- Convenient reagents and standards kit for ease of ordering
- Proven, automated online derivatization with Agilent analytical LC systems

### Live Webinar

**Topic:** Reliable Amino Acid Analysis using the AdvanceBio AAA kit and automated derivatization

**Date:** 5 April 2017

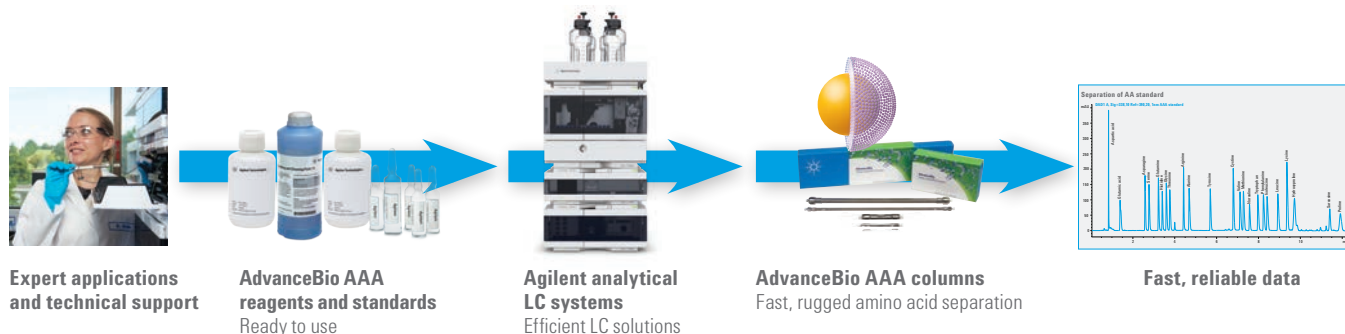
**Time:** 11:00 a.m. EDT / 8:00 a.m. PDT / 5:00 p.m. CEST

Webinar will be available on demand for those who cannot attend.

**Register now:**

[www.agilent.com/chem/advancebio-webinars](http://www.agilent.com/chem/advancebio-webinars)

### The AdvanceBio AAA workflow for rapid, sensitive amino acid separations



# SPEED. SENSITIVITY. LONG-TERM RELIABILITY. THE ADVANCEBIO AAA ADVANTAGE

Achieve fast, sensitive, reproducible separation of amino acids from biological samples and protein hydrolysates with AdvanceBio AAA columns, Agilent analytical LC systems, and AdvanceBio reagents and standards—when used according to the proven Agilent protocol described in Agilent publication number **5991-7694EN**.

The AdvanceBio AAA method is based on proven ortho-phthalaldehyde/9-fluorenyl-methyl chloroformate (OPA/FMOC) reagents for amino acid derivatization. Combining AdvanceBio AAA columns with AdvanceBio AAA reagents and online automated derivatization with Agilent analytical LC instrumentation provides an ideal, qualitative and quantitative amino acid analysis method for biopharmaceutical applications.



## The AdvanceBio AAA column advantage:

High resolution with high-pH mobile phases

Based on Agilent's innovative 2.7  $\mu\text{m}$  superficially porous Poroshell technology, AdvanceBio AAA column particles are chemically modified using proprietary technology that makes them resistant to high-pH mobile phases. They are also bonded with an endcapped C18 phase that ensures excellent selectivity for amino acid analysis. AdvanceBio AAA columns deliver:

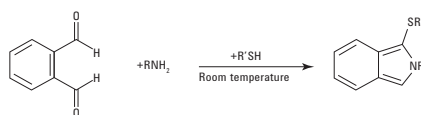
- **More reliable results:** High-resolution separations delivered by efficient Poroshell particle morphology.
- **Reduced costs:** Long column lifetimes from robust, high-pH resistant, chemically modified silica.
- **Dependability:** Batch tested with amino acid standards to ensure quality and performance.
- **Increased flexibility:** Compatibility with both HPLC and UHPLC systems via 2.7  $\mu\text{m}$  diameter particles.

## Agilent analytical LC injection systems:

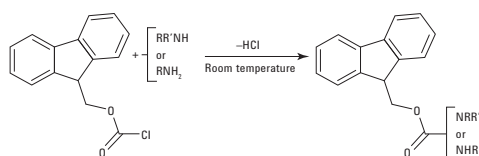
Online derivatization with  
OPA and FMOC

The chemical derivatization step  
can be fully automated using the  
injector programming feature of  
the Agilent Autosampler.

### Ortho-phthalaldehyde (OPA) for primary AA



### 9-fluorenylmethyl chloroformate (FMOC) for secondary AA



### Automated reagent addition

- Increase precision
- Eliminates manual processes

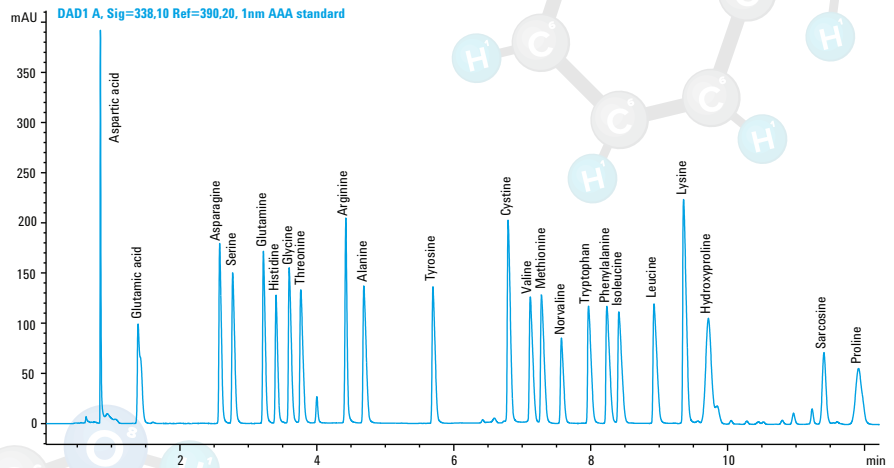


## The AdvanceBio AAA reagents and standards advantage:

Optimized for high performance with AdvanceBio AAA columns

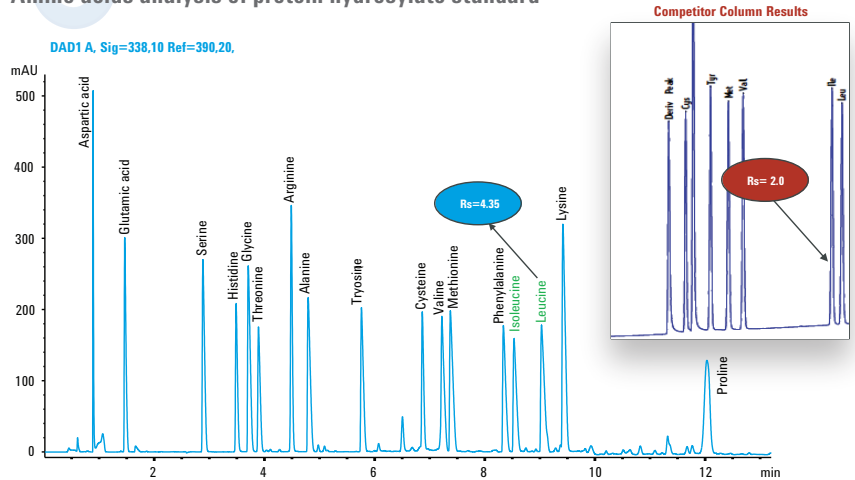
- Complete methods are fast with results in less than 20 minutes
- Up to double the column lifetime compared to standard silica based columns
- High efficiency providing resolutions greater than regulatory requirements

### Separation of AA standard



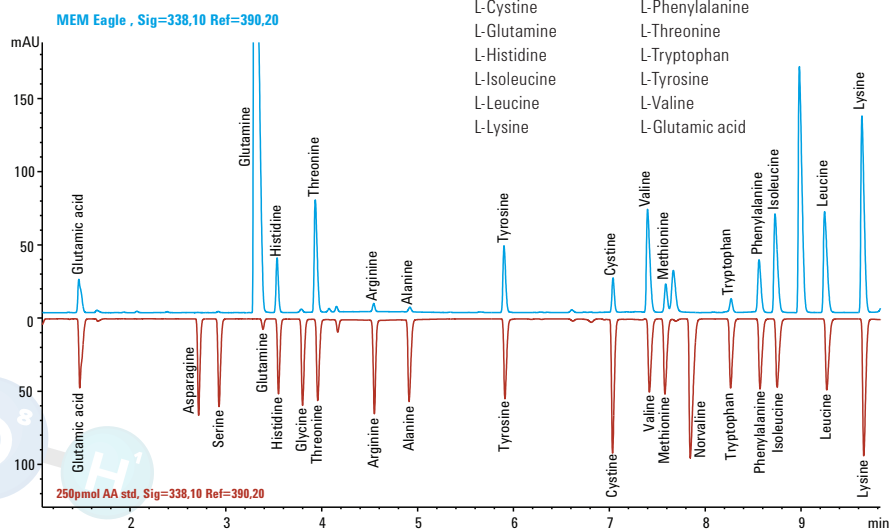
The amino acid method is used on an Agilent AdvanceBio AAA 4.6 x 100 mm, 2.7 µm column.

### Amino acids analysis of protein hydrolysate standard



Baseline resolution of isoleucine and leucine ( $R_s = 4.35$ ) meeting the regulatory requirements for these components, significantly better than competitive columns.

### Amino acids analysis of cell culture media



Amino acid analysis of MEM media (blue trace) overlaid with AA standard (red trace). The amino acid content of cell culture media is matching accurately with its theoretical composition.

Agilent AdvanceBio AAA is the latest addition to the Agilent AdvanceBio family of innovations designed specifically for biomolecule characterization.

## Ordering information



### AdvanceBio AAA Columns

Bonded Phase	I.D. (mm)	Particle Size (µm)	Length (mm)	Pore Size	Temp Limit	pH Range	Endcapping	Part Number
C18	3.0	2.7	100	100 Å	65 °C	3.0–11.0	Double	695975-322
C18	4.6	2.7	100	100 Å	65 °C	3.0–11.0	Double	655950-802
C18	3.0	2.7	5	100 Å	65 °C	3.0–11.0	Double	823750-946 (3-pack guards)
C18	4.6	2.7	5	100 Å	65 °C	3.0–11.0	Double	820750-931 (3-pack guards)

### AdvanceBio AAA Standards and Reagents

Ready-to-use reagents and standards have been combined under one part number for easy ordering.

Description	Part Number
<b>Standards and Reagents kit</b>	<b>5190-9426</b>
<b>Kit contents (can be ordered separately)</b>	
Buffer, borate, 100 mL	5061-3339
FMOC reagent, 10 ampoules, 1 mL each, for AAA	5061-3337
OPA reagent, 10 mg/mL, 6 ampoules, 1 mL each	5061-3335
Dithiodipropionic acid (DTDPA), 5g	5062-2479
AA standard, 1 nmol 10/pk	5061-3330
AA standard, 250 pmol 10/pk	5061-3331
AA standard, 100 pmol 10/pk	5061-3332
AA standard, 25 pmol 10/pk	5061-3333
AA standard, 10 pmol 10/pk	5061-3334
AA supplement, 1 g each	5062-2478

For more information, contact your local Agilent representative or Agilent authorized distributor at: [www.agilent.com/chem/contactus](http://www.agilent.com/chem/contactus)



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**Free Resource Kit: Learn more about analyzing amino acids with utmost confidence**

Kit Includes:

- Amino Acid Application Note
- Proven Agilent Amino Acid How To Guide
- Automated Amino Acid Analysis Technical Poster

Get yours at:

[www.agilent.com/chem/advancebioaaa](http://www.agilent.com/chem/advancebioaaa)

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