

# Анализаторы аминокислотные Bio 31+

## Технические характеристики

По вопросам продаж и поддержки обращайтесь:

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## Biochrom Bio 31+ Protein Hydrolysate Amino Acid Analyzer Systems

The Bio 31+ Amino Acid Analyzer complies with the global pharmacopoeia guidelines for dedicated amino acid analysis by ion exchange liquid chromatography and post-column derivatization of ninhydrin positive substances. Used in various application areas, the Biochrom amino acid analyzer system plays a critical role in the ICH Q6B guidelines for amino acid characterization of biopharmaceutical ingredients.

### **Why you need a dedicated instrument for amino acid analysis:**

Conventional HPLC systems face challenges in amino acid analysis due to sample complexity

and unique chemical properties. A dedicated AAA system provides a reliable, consistent, and reproducible solution without the need for method development. Its pre-set and extensively tested configuration allows 24/7 routine use with minimal user intervention. Efficient screening of numerous samples for specific amino acids can be swiftly conducted around the clock using concise methods.

### **System suitable for:**

- Research, development and manufacturing
- Quality control and compositional analysis

### **Specific applications:**

- Detection of up to 20 amino acids normally found in proteins
- Protein and peptide analysis for pharmaceutical applications
- Food, beverages, plant extracts, fermentation products, culture media, nutraceuticals, and infusion fluids

Biochrom 31+ Series of Amino Acid Analyzers are customizable.

Please contact your sales representative or distributor for system ordering information.

The Bio 31+ Protein Hydrolysate System, utilizing sodium citrate-based buffers, ensures fully automated, high-standard analysis for generic drugs and infusion fluids. Our dedicated amino acid analyzers accurately quantify amino acids in solutions derived from diverse materials, including proteins, peptides, and pharmaceutical ingredients. This typically involves simple sample preparation methods like acid hydrolysis, eliminating the need for chemical derivatization before injecting the hydrolyzed sample, thanks to automated post-column ninhydrin detection.

The long-lasting sodium columns in the Bio 31+ Protein Hydrolysate System tolerate various matrices and high-salt content, making it effective for analyzing infusion liquids, recombinant peptides, and synthetic drugs. Its capability to handle complex sample matrices makes it as a

robust quality control technique for analyzing vitamins, synthetic drugs, and more.

## A Dedicated Amino Acid Analysis System

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<b>Accurate:</b>	Superb separation, accurately identifies and quantifies free amino acids, as well as the amino acid composition of proteins and peptides.
<b>Reliable:</b>	Minimal matrix interference and near baseline separation. Automated derivatization of amino acids maximizes reproducibility.
<b>Fast:</b>	Rapid protocols that increase sample throughput by cutting analysis time.
<b>Economical:</b>	The column cleaning and repacking service, gives columns an almost indefinite life and cuts the cost of ownership.
<b>Fully Automated:</b>	Total PC control allows 24/7 operations.
<b>Versatile:</b>	Wide variety of sample types compatible: Protein hydrolysates from various food and feedstuff samples or synthetic drugs, nutraceuticals, beverages.
<b>Easy to implement:</b>	No lengthy method development required as this well characterized system is established worldwide. All customers have their instrument optimized to their application directly from the factory.
<b>Convenient:</b>	Interchangeable sample trays allow samples to be prepared in advance and stored refrigerated.
<b>Robust:</b>	Advanced fluidics and robust hardware mean easy maintenance for users, backed by the reassurance of Biochrom's dedicated service and support team.
<b>Flexible:</b>	Integrated software, choice of different methods to adapt to the user's needs. Automatic sample set-up. Networking and exporting of data.
<b>Compact:</b>	Bench top design requiring minimum lab space.

## Instrument Typical Package

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The Instrument package consists of the Analyzer (electronics unit, pumps, and detection system) plus:

- Cooled or Non-Cooled Autosampler
- Column kit: analytical column and top-up ion exchange resin, prewash column and top-up ion exchange resin
- Ninhydrin

- Buffer Chemical Kit suitable for up to 170 analyses
- Spare parts and Consumables Kit
- Calibration Standard
- Hardware control and data handling software
- Desktop PC, LED widescreen monitor
- User Manual (PDF format)
- Power cables

For buffer and chemicals information, consult the Consumables tab below.

INSTRUMENT SPECIFICATIONS	
SPECIFICATION	DATA
Reproducibility	Area: < 1.5% RSD at 5 nanomoles Retention time: < 0.5% RSD
Pumps	Two dual piston pumps with integrated pressure transducer and drain valve Ceramic pump head, sapphire pistons and valves Electronically controlled piston wash
Operating Pressures	Buffer pressure: maximum 150 bar Ninhydrin pressure: maximum 24 bar
Analytical Column	High pressure PEEK column packed with Ultropac 8 cation exchange resin. Peltier heating/cooling system
Sample Injection	3 injection modes (full loop, partial loop and micro), 84 position autosampler Sample volumes from 1 µL to 5000 µL (200 µL loop supplied as standard)
Temperatures	Column temperature variable between 20°C and 99°C. Reaction coil temperature adjustable between 40°C and 145°C (135°C nominal for UltraNynhydrin, 138°C nominal for EzNin)
Software	Phoenix Integrated Control Software Data Apex Clarity or Agilent OpenLAB CDS EZChrom Edition

INSTRUMENT SPECIFICATIONS	
SPECIFICATION	DATA
Photometer	Single flow cell with optical beam splitter with detection at 440 nm and 570 nm
Weight and Dimensions	Main System: 50 kg (110 lb.) 48 x 59 x 57 cm (19 x 23 x 22 in.) Autosampler: 21kg (46 lb.) 30 x 57.5 x 36 cm (12 x 23 x 14 in.)
Required Services	Oxygen free nitrogen gas (99.99%) or argon gas regulated to 5 bar Drainage facility 240V/100V, 50Hz/60Hz, 300VA mains supply
Safety Systems	Automatic shut down and reaction coil flushing in the event of: <ul style="list-style-type: none"> <li>• Power failure</li> <li>• Photometer lamp failure</li> <li>• Low ninhydrin, low buffer, low coil or low nitrogen pressures</li> <li>• High coil or column temperatures, high ninhydrin, high buffer or high coil pressures</li> </ul>

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### ^ EZ Nin Reagent Kit 2L NC

ITEM #: 80-6003-12

Sufficient for up to 90 runs (Protein Hydrolysate System) or 45 runs (Physiological Fluid High Performance System)

Includes: EZ Nin Reagent ready-to-use 2L bottle, In-line filter, Quick Start Guide

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### ✓ EZ Nin Reagent Kit 4L NC (2 x 2L)

ITEM #: 80-6003-13

Sufficient for up to 180 runs (Protein Hydrolysate System) or 90 runs (Physiological Fluid High Performance System)

Includes: EZ Nin Reagent ready-to-use 2x 2L bottle, 2x In-line filter, Quick Start Guide

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✓ **EZ Nin Reagent Kit 8L NC (4 x 2L)**

ITEM #: 80-6003-14

Sufficient for up to 360 runs (Protein Hydrolysate System) or 180 runs (Physiological Fluid High Performance System)

Includes: EZ Nin Reagent ready-to-use 4x 2L bottle, 4x In-line filter, Quick Start Guide

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✓ **Ultra Ninhydrin Kit 2L NC**

ITEM #: 80-6003-10

Sufficient for up to 90 runs (Protein Hydrolysate System) or 45 runs (Physiological Fluid High Performance System)

Includes Ultra Ninhydrin Solution 2L, Ultrosolve Plus Solution, In-line Filter

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✓ **Ultra Ninhydrin Kit 8L NC (4 x 2L)**

ITEM #: 80-6003-11

Sufficient for up to 360 runs (Protein Hydrolysate System) or 180 runs (Physiological Fluid High Performance System)

Includes 4x Ultra Ninhydrin Solution 2L, 4x Ultrosolve Plus Solution, 4x In-line Filter

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✓ **Sodium Hydrolysate Buffer Kit (no ninhydrin reagent included)**

ITEM #: 80-6000-18

Sufficient for up to 320 runs (High Performance System)

Includes 2x Sodium Buffer 1, 2x Sodium Buffer 2, 2x Sodium Buffer 5, 1x Sodium Regeneration Buffer 6, 1x Sodium Loading Buffer

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✓ **Sodium Accelerated Buffer Kit (no ninhydrin reagent included)**

ITEM #: 80-6000-20

Sufficient for up to 350 runs

Includes 2x Accelerated Buffer 1, 1x Sodium Accelerated Buffer 2, 2x Sodium Accelerated Buffer 3, 2x Sodium Accelerated Buffer 4, 1x Sodium Loading Buffer

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✓ **Sodium Hydrolysate Buffer 1**

ITEM #: 80-2037-68

2 L, pH 3.2

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✓ **Sodium Hydro/Oxidized Buffer 2**

ITEM #: 80-2038-08

2 L, pH 4.25

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✓ **Sodium Hydrolysate Buffer 5**

ITEM #: 80-2038-09

2 L, pH 6.45

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✓ **Sodium Regeneration Buffer 6**

ITEM #: 80-2037-57

1 L, NaOH

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✓ **Sodium Loading Buffer**

ITEM #: 80-2037-67

2 L, Ph 2.20

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✓ **Sodium Accelerated Buffer 1**

ITEM #: 80-2115-21

2 L

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✓ **Sodium Accelerated Buffer 2**

ITEM #: 80-2115-22

2 L

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✓ **Sodium Accelerated Buffer 3**

ITEM #: 80-2115-23

2 L

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✓ **Sodium Accelerated Buffer 4**

ITEM #: 80-2115-24

2 L

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✓ **Protein Hydrolysate amino acid standard, 2.5mM**

ITEM #: 80-6002-67

This ISO 17034 Reference Material (RM) is manufactured and verified in accordance system ISO17034 and ISO17025 requirements. The analyte concentrations are verified by a quality control laboratory and the true value and uncertainty values at the 95% confidence level are reported for each analyte.

This is supplied in a sealed glass vial containing 5 mL of standard solution in a 0.1 N Hydrochloric Acid matrix. A Certificate of Analysis is provided with each vial. Store Refrigerated (2o to 8oC)  
Do Not Freeze.

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✓ **Sodium High Resolution Analytical Column**

ITEM #: 80-6002-51

20cm x 4.6mm ID

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✓ **Sodium High Performance Analytical Column**

ITEM #: 80-6002-52

20cm x 4.6mm ID

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✓ **Sodium Prewash column**

ITEM #: 80-6002-53

10cm x 4.6mm ID

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✓ **Analytical Column Cleaning Service**

ITEM #: 80-2112-17

All analytical columns

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✓ **Prewash Column Cleaning Service**

ITEM #: 80-2117-34

All prewash columns

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