

# **Instructions for Use**

## **Bruker Matrix HCCA, portioned**

**Purified matrix substance for matrix-assisted laser desorption and ionization  
time-of-flight mass spectrometry (MALDI-TOF-MS).**

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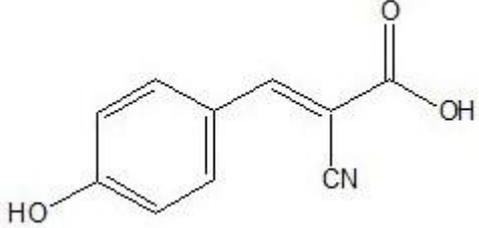
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## 1 Product Description

Bruker Matrix HCCA, portioned (referred to as 'Bruker HCCA'; HCCA =  $\alpha$ -Cyano-4-hydroxycinnamic acid) enables easy and convenient preparation of MALDI matrix solution for MALDI-TOF-MS measurement of peptides and proteins. Each tube contains  $2.5 \pm 0.3$  mg matrix, enabling fast preparation of the desired concentration simply by adding the relevant volume of solvent.

Synonyms	2-Cyano-3-(4-hydroxyphenyl) acrylic acid
Molecular formula	$C_{10}H_7NO_3$
Structural formula	
Molecular weight	189.17 g/mol
CAS number	28166-41-8
EC number	248-879-1
Melting point	245-250°C
Content	2.5 mg Bruker HCCA / tube.

This kit is for research use only. It is not for use in diagnostic procedures.

### Ordering Information

Product	Part Number
Bruker Matrix HCCA, portioned, 10 tubes	# 255344

## 2 Inspection, Storage and Stability

### 2.1 Inspection on Arrival

Check the Bruker HCCA package on arrival. If it is damaged, check the tubes. If the tubes are damaged, the Bruker HCCA must not be used. Dispose of the Bruker HCCA (tubes and package) following the guidelines outlined in the Material Safety Data Sheet for the product and contact Bruker Daltonik GmbH (care@bdal.de) for a replacement.

### 2.2 Storage on Arrival

+2°C		+8°C	Bruker HCCA is shipped at ambient temperature. The expiry date on the package is valid for the product when stored in a refrigerator at 2°C to 8°C on arrival.
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### 2.3 Storage after Solubilization

+20°C		+25°C	Dissolved Bruker HCCA is stable at controlled room temperature (20–25°C) for up to one week.
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## 3 Risk and Safety Information

Bruker HCCA must be labeled according to Regulation (EC) No 1272/2008. Signal word: WARNING.



HCCA is classified as a hazardous chemical: WARNING (H: 315, 319, 335)

For more information, read the Material Safety Data Sheet available for download at [www.bdal.com/msds](http://www.bdal.com/msds).

Additional chemicals may be required for procedures described in these Instructions for Use. Carefully read the Material Safety Data Sheet provided by the supplier and follow general safety regulations when handling chemicals or biohazardous material.

## 4 Field of Application

Bruker HCCA enables easy and convenient preparation of HCCA matrix solutions. The matrix is soluble in standard solvent (see section 5), is easy to handle, and enables highly sensitive MALDI-TOF-MS measurement of peptides and proteins from 0.7 to 20 kDa.

MALDI-TOF-MS using HCCA as a matrix has been shown to be a reliable, high-throughput method for the classification and identification of microorganisms.

## 5 Solubilization of Bruker HCCA

### Chemicals and Materials Required

- Standard solvent (acetonitrile 50%, water 47.5% and trifluoroacetic acid 2.5%) from Sigma-Aldrich (# 19182), which has been tested by Bruker Daltonik GmbH and is recommended for solubilization of Bruker HCCA.
- MALDI target of the type selected for your workflow.
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### Equipment and Tools Required

Vortex mixer, pipettes, pipette tips.

### Solubilization Procedure

The procedure for solubilization of Bruker HCCA depends on the type of MALDI target to be used.

#### ***For BigAnchor targets***

1. Add 500  $\mu$ L standard solvent to the screw cap tube containing Bruker HCCA (final concentration: 5 mg Bruker HCCA/mL) and close the tube.
2. Shake the screw cap tube and use a vortex mixer to completely dissolve Bruker HCCA at room temperature. Finally, shake the contents down.

#### ***For all other targets***

1. Add 250  $\mu$ L standard solvent to the screw cap tube containing Bruker HCCA (final concentration: 10 mg Bruker HCCA/mL) and close the tube.
2. Shake the screw cap tube and use a vortex mixer to completely dissolve Bruker HCCA at room temperature. Finally, shake the contents down.

## 6 Sample Preparation Using Bruker HCCA

The procedure below can be used for the classification and identification of microorganisms through MALDI-TOF-MS.

### ***Direct transfer sample preparation method***

1. Transfer biological material (for example, a single bacterial colony) as a thin film directly onto a MALDI target position.
2. Overlay the sample with 1  $\mu\text{L}$  Bruker HCCA solution.

**Note** Make sure that the screw cap tube containing Bruker HCCA is tightly closed after use to minimize solvent evaporation.

3. Dry the matrix overlaid sample at room temperature. A homogeneous preparation should be observed.
4. Perform MALDI-TOF-MS measurement.

### ***Extraction sample preparation method, Bruker (IVD) Bacterial Test Standard sample preparation***

1. Deposit 1  $\mu\text{L}$  of extract from biological material or 1  $\mu\text{L}$  Bruker (IVD) Bacterial Test Standard onto a MALDI target position.
2. Allow the sample spot to dry at room temperature.
3. Overlay the sample spot with 1  $\mu\text{L}$  Bruker HCCA solution (10 mg/mL).

**Note** Make sure that the screw cap tube containing Bruker HCCA is tightly closed after use to minimize solvent evaporation.

4. Allow the matrix-covered sample spot to dry at room temperature.  
A homogenous preparation should be observed.
5. Perform MALDI-TOF-MS measurement.

## 7 Manufacturer



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For research use only. Not for use in diagnostic procedures.

# 255344

Descriptions and specifications supersede all previous information and are subject to change without notice.

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