

Instructions for Use

IVD Matrix HCCA-portioned

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

CARE products are designed to support our worldwide customers with high-quality consumables, accessories and dedicated kits.

The CARE product range is specifically optimized and certified for use with all Bruker Daltonics systems.

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Language: en-AU

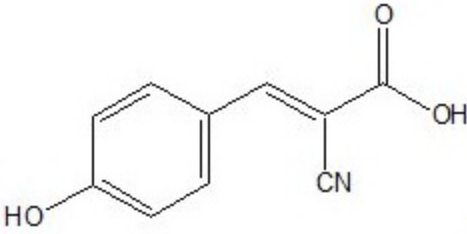
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1 Intended use

IVD Matrix HCCA-portioned is an in-vitro-diagnostic product which is intended to be used for MALDI-TOF-MS after solvent addition.

2 Product description

IVD Matrix HCCA-portioned (referred to as 'IVD HCCA'; HCCA = α -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 ± 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 IVD HCCA / tube.

This kit is an in-vitro diagnostic device.

Ordering information


Product	Part Number
IVD Matrix HCCA-portioned, 10 tubes	8290200 or 290200

3 Inspection, storage and stability


3.1 Inspection on arrival

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

3.2 Storage on arrival

+2°C		+8°C	IVD 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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3.3 Storage after solubilization

+20°C		+25°C	Dissolved IVD HCCA is stable at controlled room temperature (20–25°C) for up to one week.
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4 Risk and safety information



IVD Matrix HCCA-portioned is classified as a hazardous chemical:
WARNING (H315, H319, H335)¹

For more information, read the Material Safety Data Sheet available for download at www.bruker.com/care.

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.

5 Field of application

IVD Matrix HCCA-portioned enables easy and convenient preparation of HCCA matrix solutions. The matrix is soluble in standard solvent (see section 6), 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.

¹ H315: Causes skin irritation; P264: Wash hands thoroughly after handling; P280: Wear protective gloves/protective clothing/eye protection/face protection; P302+P352: IF ON SKIN: Wash with soap and water; P321: Specific treatment (see First aid measures in the MSDS); P332+P313 If skin irritation occurs: Get medical advice/attention; P362+P364: Take off contaminated clothing and wash it before reuse.

H319: Causes serious eye irritation; P264: Wash hands thoroughly after handling; P280: Wear protective gloves/protective clothing/eye protection/face protection; P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. continue rinsing; P337+P313 If eye irritation persists get medical advice/attention.

H335: May cause respiratory irritation; P261: Avoid breathing dust/fume/gas/mist/vapors/spray; P271: Use only outdoors or in a well-ventilated area; P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing; P312: Call a POISON CENTER or doctor/physician if you feel unwell; P403+P233: Store in a well ventilated place. Keep container tightly closed; P405: Store locked up; P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

6 Solubilization of IVD 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 IVD HCCA.
- MALDI target plate of the type selected for your workflow.

Equipment and tools required

Vortex mixer, pipettes, pipette tips.

Solubilization procedure

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

For BigAnchor targets

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

For all other targets approved for your workflow

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

7 Sample preparation using IVD HCCA

The procedures 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 plate position.
2. Overlay the sample spot with 1 μL IVD HCCA solution.

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

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

extended Direct Transfer sample preparation method

Note The extended Direct Transfer method is not included in the *IVD MALDI Biotyper User Manual* but has been fully validated for use in IVD MALDI Biotyper workflows.

1. Transfer biological material (for example, a single bacterial colony) as a thin film directly onto a MALDI target plate position.
2. Overlay the sample spot with 1 μL 70% formic acid and allow to dry at room temperature.
3. Overlay the sample spot with 1 μL IVD HCCA solution.

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

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

Extraction sample preparation method, IVD Bacterial Test Standard or Bruker Bacterial Test Standard solution sample preparation

1. Deposit 1 μL of extract from biological material or 1 μL IVD Bacterial Test Standard or 1 μL Bruker Bacterial Test Standard onto a MALDI target plate position.
2. Allow the sample spot to dry at room temperature.
3. Overlay the sample spot with 1 μL IVD HCCA solution.

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

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

8 Manufacturer



Bruker Daltonik GmbH

Fahrenheitstrasse 4
28359 Bremen
Germany

Support

E-mail: biotyper.support@bdal.de
Phone: +49 (421) 2205-1401
Fax: +49 (421) 2205-106

Sales Information

E-mail: care@bdal.de
Phone: +49 (421) 2205-1402
Web: www.bruker.com/care

Your local Bruker representative:

Bruker Pty. Ltd.
1/28a Albert Street
Preston
Victoria 3072
Australia

Support (hardware and software):

Phone: 1800 171 247
Email: service_au_nz@bruker.com

Sales:

Phone: 1800 278 537
Fax: 03 9474 7070
Email: sales_au_nz@bruker.com

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