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# Instructions for Use

# Peptide Calibration Standard II

**Peptide mixture for calibration of matrix-assisted laser desorption and ionization time-of-flight mass spectrometers (MALDI-TOF MS)**

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**Language: en**

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# 1 Product Description

Peptide Calibration Standard II is a mixture for the calibration of matrix-assisted laser desorption and ionization time-of-flight mass spectrometers (MALDI-TOF MS). It allows calibrations (5x250 calibration points) and testing of MALDI-TOF mass spectrometers in a mass range between ~700 and 3500 Da. The mixture contains nine standard peptides. The compounds are listed in the following table together with their molecularweights.

The standard is for research use only. It is not for use in diagnostic procedures.

**Table 1 Calibrant Peptides together with their [M+H]+ m/z values**

| Peptide | [M+H]+ Monoisotopic | [M+H]+ Average |
|---|---|---|
| Bradykinin 1-7 | 757.3992 | 757.86 |
| Angiotensin II | 1046.5418 | 1047.19 |
| Angiotensin I | 1296.6848 | 1297.49 |
| Substance P | 1347.7354 | 1348.64 |
| Bombesin | 1619.8223 | 1620.86 |
| ACTH clip 1-17 | 2093.0862 | 2094.43 |
| ACTH clip 18-39 | 2465.1983 | 2466.68 |
| Somatostatin 28 | 3147.4710 | 3149.57 |

**Ordering Information**

| Product | Part No. |
|---|---|
| Peptide Calibration Standard II, 5 tubes | # 8222570 |

# 2 Storage and Stability

The Peptide Calibration Standard II is shipped at ambient temperatures. We recommend storing the standard on arrival at 0°C or below.

Dissolved samples should be aliquoted and frozen. We do not recommend refreezing dissolved samples after thawing.

**Note** Do not apply repeated freeze-thaw cycles to all materials.

# 3 Risk and Safety Information

Peptide Calibration Standard II is not classified according to Regulation (EC) No. 1272/2008 and is therefore not classified according to the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). In the manufacturer's experience, the product has no harmful effect when used and handled according to specifications.

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.

HCCA is harmful (H:315, H319, H335).

Acetonitrile is highly flammable and harmful (H: H225-H302+H312+H332-H319; P: P210-P280-P305+P351+P338).

# 4 Sample Preparation Procedure (recommendation)

### Preliminary remarks

Poor sample preparation will degrade sensitivity, yield low resolution and poor reproducibility. The generation of ions through MALDI depends on the production of a suitable composite material, consisting of the matrix substance and the analyte. For best results use only chemicals of highest purity available.

### Chemicals and materials required

- □-Cyano-4-hydroxycinnamic acid (HCCA) (# 8201344, Bruker Daltonics GmbH & Co. KG.)
- Acetonitrile (ACN)
- 0.1% Trifluoroacetic acid in ultra pure water (TFA solution)
- TA solvent: mixture of ACN and 0.1% TFA solution in a volume ratio of 1:2
- Eppendorf Safe-Lock microcentrifuge tubes
- MALDI target plate

### Equipment and tools required

- Centrifuge
- Vortexmixer or shaker
- Ultrasonic device
- Pipettes and pipette tips

### 1. Preparation of Peptide Calibration Standard IIsolution

Dissolve the content of one tube of Peptide Calibration Standard II in 125 µL 0.1% TFA solvent and vortex/shake for several seconds.

**Note** Alternative for dried droplet preparations only (not compatible with thin layer or double layer preparations): Dissolve the content of a Peptide Calibration Standard II tube in 125 µL TA solvent and shake / mix for several seconds.

**Note** We highly recommend to aliquot the dissolved Peptide Calibration Standard II into Eppendorf Safe-Lock microcentrifuge tubes to prevent polymer contamination.

### 2. Preparation of HCCA solution

Dissolve HCCA in TA solvent up to saturation at room temperature. Assist the solution process by using an ultra sonic device. Spin down excess matrix in a centrifuge (5 minutes at 14,000 rpm) and use only the homogeneous transparent phase.

### 3. Preparation of a sample onto a MALDI target plate

According to the dried droplet method, mix equal volumes of Peptide Calibration Standard II solution and HCCA solution. Apply 1 µL of this mixture onto a standard steel MALDI target plate position and let the sample spot dry at room temperature.

For AnchorChip target preparation, please refer to the relevant Instructions for Use.

# 5 Result of Measurement of Peptide Calibration Standard II

Peptide Calibration Standard II is tested on a Bruker Daltonics autoflex MALDI- TOF mass spectrometer. Figure 1 shows a typical MALDI-TOF mass spectrum of Peptide Calibration Standard II obtained from a MALDI target preparation with HCCA matrix.

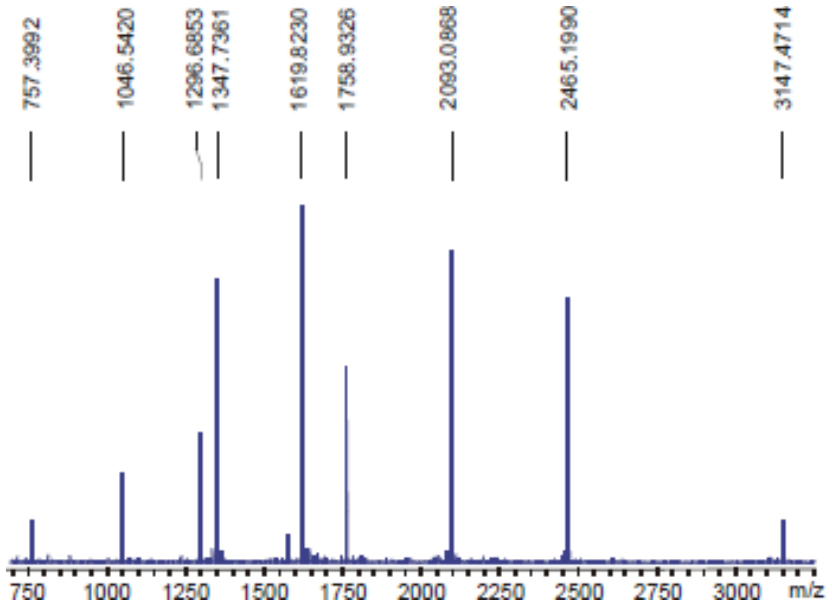


**Figure 1 MALDI-TOF mass spectrum of Peptide Calibration Standard II**

# 6 Manufacturer

**Bruker Daltonics GmbH & Co. KG.**
Fahrenheitstraße 4
28359 Bremen
Germany

## Support

E-mail: maldi.appl.support@bruker.com
Phone: +49 (421) 2205-184
Fax: +49 (421) 2205-104

## Sales Information

E-mail: care@bruker.com
Phone: +49 (421) 2205-0
Web: www.bruker.com/care

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# 8222570

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