

Instructions for Use

Peptide Calibration Standard

**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 is a mixture of seven standard peptides which allows calibration and testing of MALDI-TOF mass spectrometers in a mass range between ~1000 and 3500 Da. The quantity of substance allows 5x250 calibration points.

The following table lists the seven peptides and their molecular masses.

Peptide	[M+H] ⁺ Monoisotopic	[M+H] ⁺ Average
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, 5 tubes	# 8206195

2 Storage and Stability

Peptide Calibration Standard is shipped at ambient temperatures. After arrival, we recommend storing Peptide Calibration Standard 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 the material.

3 Risk and Safety Information

Peptide Calibration Standard 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

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

- α -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
- Vortex mixer or shaker
- Ultrasonic device
- Pipettes and pipette tips

1. Preparation of Peptide Calibration Standard solution

Dissolve the content of one tube of Peptide Calibration Standard 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 tube in 125 μL TA solvent and shake / mix for several seconds.

Note We highly recommend to aliquot the dissolved Peptide Calibration Standard 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 solution and HCCA solution. Apply 1 μL of this mixture onto a position on a standard steel MALDI target plate 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

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

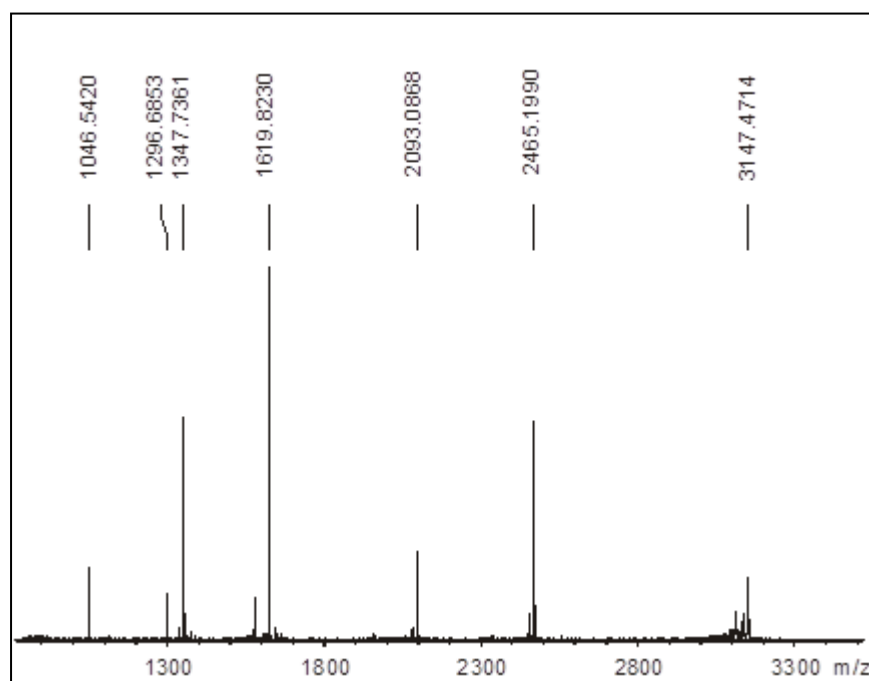


Figure 1 MALDI-TOF mass spectrum of Peptide Calibration Standard

6 Manufacturer



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