

Instructions for Use

Tryptic Digest of Bovine Serum Albumin

Polypeptide fragment mixture for testing matrix-assisted laser desorption and ionization time-of-flight mass spectrometers (MALDI-TOF MS)

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

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1 Product Description

Tryptic Digest of Bovine Serum Albumin is a mixture of proteolytic polypeptide produced by digestion of bovine serum albumin with the protease trypsin (bovine). Cysteines were reduced and carbaminomethylated before digestion.

The box contains five tubes. The quantity of substance allows 5x250 calibration points (approx. 500 pmol/tube).

The following table lists the main fragments of the tryptic digest and their molecular masses.

Typical Fragments	[M+H] ⁺ Monoisotopic	[M+H] ⁺ Average
Albumin Bovine (overall)		66431.00
[161 – 167]	927.493	928.06
[66 – 75]	1163.631	1164.33
[361 – 371]	1283.711	1284.49
[402 – 412]	1305.716	1306.49
[569 – 580]	1399.693	1400.62
[360 – 371]	1439.812	1440.67
[421 – 433]	1479.795	1480.69
[347 – 359]	1567.743	1568.71
[437 – 451]	1639.938	1640.90
[469 – 482, carbamidomethylated]	1724.835	1726.01
[508 – 523]	1880.921	1882.13
[529 – 544]	1907.921	1909.15
[168 – 183]	2045.028	2046.31

Note Relative intensities of peptide signals may vary from lot to lot. Additional peptides may be observed with varying intensities.

Ordering Information

Product	Part No.
Tryptic Digest of Bovine Serum Albumin, 5 tubes	# 8217498

2 Storage and Stability

Tryptic Digest of Bovine Serum Albumin is shipped at ambient temperatures. After arrival, we recommend storing the product 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

Tryptic Digest of Bovine Serum Albumin 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 Recommended Sample Preparation Procedure

Preliminary remarks

Poor sample preparation will reduce sensitivity, lower resolution and lead to 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
- MALDI target plate

Equipment and tools required

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

1. Preparation of Tryptic Digest of Bovine Serum Albumin solution

Dissolve the content of one tube of Tryptic Digest of Bovine Serum Albumin in 125 μ L TFA solution and vortex/shake for several seconds.

Note We highly recommend to aliquot the dissolved Tryptic Digest of Bovine Serum Albumin 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 Tryptic Digest of Bovine Serum Albumin solution and HCCA solution. Apply 1 μ L 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 Tryptic Digest of Bovine Serum Albumin

Tryptic Digest of Bovine Serum Albumin is tested on a Bruker Daltonics autoflex MALDI-TOF mass spectrometer. 4 shows a typical MALDI-TOF mass spectrum of Tryptic Digest of Bovine Serum Albumin obtained from a MALDI target preparation with HCCA matrix.

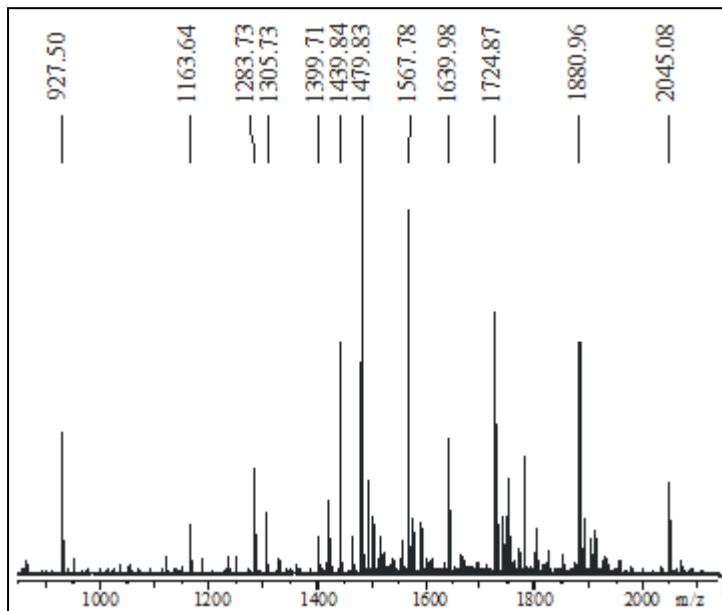


Figure 1 MALDI-TOF mass spectrum of Tryptic Digest of Bovine Serum Albumin

6 Manufacturer



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