



COMPACT LINEAR MALDI-TOF  
MASS SPECTROMETER

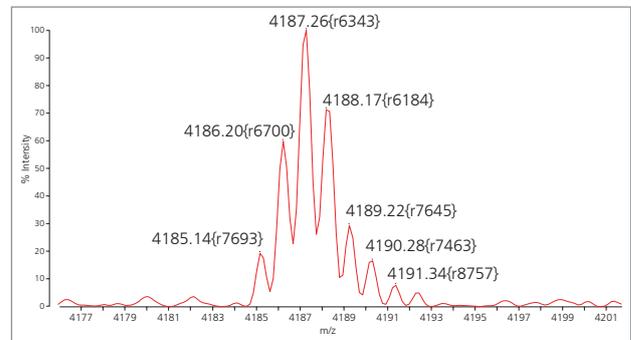
**MALDI-8020**

High-performance analysis  
of proteins, peptides,  
synthetic polymers,  
oligonucleotides

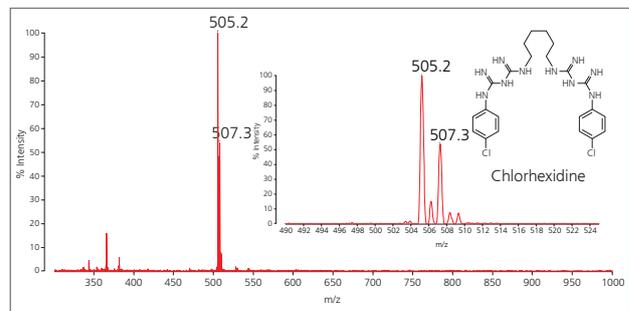
- The linear mode of operation of the mass analyzer
- Solid-state laser 200 Hz, 355 nm
- A system of rapid loading of samples
- Patented system of automatic laser cleaning of elements of ion optics TrueClean™
- Compact desktop version
- Reduced noise level (<55 dB)

Wide-aperture ion optics minimizes the risk of contamination of the ionization source and ensures long-term uninterrupted operation of the MALDI-8020.

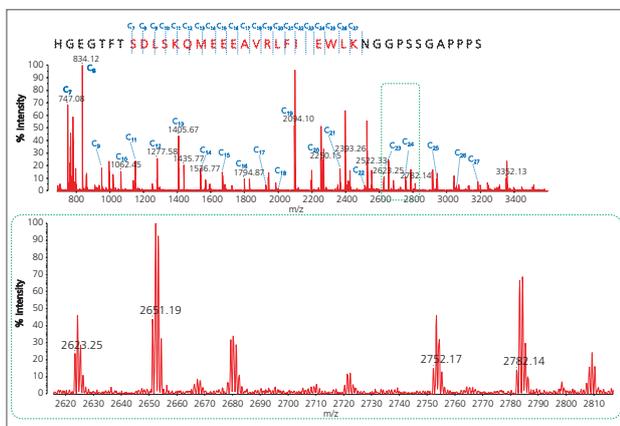
MALDI Solutions™ software includes a Microsoft® SQL database for secure storage of analysis results and mass spectrometer performance parameters. The software supports flexible setting of user access parameters to device settings and data and fully complies with the requirements of 21 CFR Part 11.



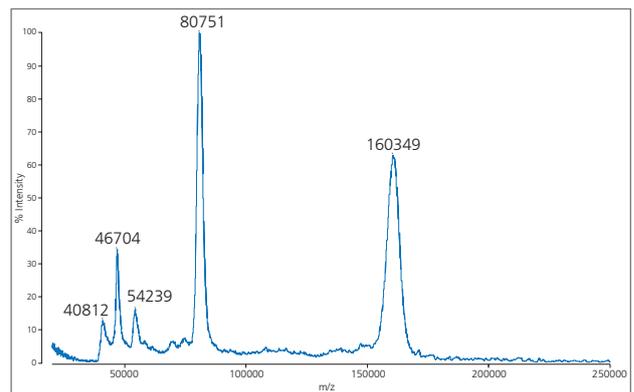
Mass spectrum of a peptide with a mass of 4.2 kDa, resolution >5,000 (FWHM)



Mass spectrum obtained during the determination of chlorhexidine bigluconate in mouthwash. The sample was obtained by mixing with the matrix without any additional preparation. The highlighted fragment is the enlarged peak at m/z 505.2.



Mass spectrum of native Exenatide-4 obtained during decay in an ionization source (MALDI-ISD). The upper figure shows fragment ions corresponding to the sequence of amino acid residues in the peptide chain. The lower figure shows an enlarged fragment of the mass spectrum, demonstrating the isotopic resolution of fragment ions.



Analysis in the area of high masses, for example, immunoglobulin A (IgA).

## Technical specifications

### Sample processing

- The system of rapid loading of samples
- XY device for precise (step 10 µm) positioning of the sample
- Tablets for samples of the FlexiMass™ series:
  - disposable plastic FlexiMass™-DS disposable targets (48 targets)
  - reusable stainless steel FlexiMass™-SR48 (48 targets)

### Sample Viewing System

- Resolution 10 µm
- Built-in LED sample illumination

### Ionization system

- Laser desorption-ionization in the presence of a matrix
- Pulse extraction of ions
- Mode of positive ionization
- Wide-aperture ion optics to minimize contamination of the source
- TrueClean™ — a function of automatic laser cleaning of the source

### Laser

- Patented solid-state ultra-fast laser
- Wavelength: 355 nm
- Pulse frequency up to 200 Hz
- Orthogonal geometry of the laser beam

### Mass analyzer

- Linear time-of-flight mass analyzer
- A beam quenching system to eliminate unwanted signals of high intensity, for example, from matrix ions
- Oil-free vacuum system

### Detector

- Electron multiplier

### MALDI Solutions™ Software

- Access/prohibition of user access to device settings and analysis results
- Centralized database for secure data storage
- Control log, compliance with 21 CFR part 11

### Dimensions and weight

- Size W x H x D (mm): 450 x 1055 x 745
- Weight: 86 kg

### Analytical characteristics

- Mass range 1–500 kDa
- Mass resolution:
  - > 5000 FWHM – ACTH 18-39 (m/z 2465)
- Sensitivity:
  - 250 fM (bovine serum albumin),
  - 250 aM (Glu-1-Fibrinopeptide B)
- Mass determination accuracy:
  - < 20 ppm (internal standard),
  - < 150 ppm (external standard)



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